

Swedish and German Rejecting Questions:
Experimental Investigations of Question Bias

Dissertation
zur Erlangung des akademischen Grades

Doktor der Philosophie (Dr. phil.)

eingereicht an der Sprach- und literaturwissenschaftlichen Fakultät
der Humboldt-Universität zu Berlin

von

Heiko Seeliger

Prof. Dr. -Ing. Dr. Sabine Kunst
Präsidentin
der Humboldt-Universität zu Berlin

Prof. Dr. Ulrike Vedder
Dekanin
der Sprach- und
literaturwissenschaftlichen Fakultät

Gutachterinnen und Gutachter:

1. Prof. Dr. Sophie Repp
2. Prof. Dr. Manfred Krifka
3. Prof. Dr. Hans-Martin Gärtner

Tag der Disputation: 19.11.2018

Zusammenfassung

Diese Arbeit untersucht eine Klasse von tendenziösen Fragen, die mindestens im Schwedischen und Deutschen existieren: Rejecting Questions (RQs). RQs unterscheiden sich von anderen Fragen mit deklarativer Syntax u.a. darin, dass die kontextuelle Evidenz, die solche Fragen lizenziert, von umgekehrter Polarität (relativ zur Polarität der Frage selber) ist – positive RQs benötigen Evidenz für eine negierte Proposition, positive deklarative Fragen benötigen Evidenz für eine positive Proposition.

In drei Experimenten wird gezeigt, dass i) schwedische negative RQs sich in ihren Lizenzierungsbedingungen von negativen deklarativen Fragen unterscheiden, ii) schwedische negative RQs sich in ihrer Intonation von Zurückweisungen unterscheiden, iii) schwedische und deutsche RQs tendenziell unmarkierter zu sein scheinen, wenn sie Negation enthalten. Das dritte Experiment liefert außerdem einen Beitrag zur Analyse der Bedeutung der schwedischen Modalpartikel *väl*.

Ich argumentiere, dass RQs sprecherindizierte Präferenzen für einen eingebetteten Sprechakt ausdrücken. Dieser eingebettete Sprechakt unterscheidet sich im unmarkierten Fall zwischen negativen RQs, welche i.d.R. hypothetische Zurückweisungen sind, und positiven RQs, welche immer hypothetische Assertionen sind. Mit dieser Asymmetrie erkläre ich die Auffälligkeiten in den Lizenzierungsbedingungen von RQs, die sowohl im Schwedischen als auch im Deutschen nachgewiesen werden können.

Abstract

This thesis investigates a class of biased questions that exists at least in Swedish and German: rejecting questions (RQs). RQs differ from other questions with declarative syntax i.a. in that the contextual evidence that licenses such questions is of the opposite polarity relative to the polarity of the question itself – positive RQs require evidence for a negated proposition; positive declarative questions require evidence for a positive proposition.

The results of three experiments show that i) Swedish negative RQs differ in their licensing conditions from negative declarative questions, ii) Swedish negative RQs differ in their intonation from rejections, iii) Swedish and German RQs tend to be less marked if they contain negation. The third experiment also contributes to the analysis of the meaning of the Swedish modal particle *väl*.

I argue that RQs express speaker-indexed preferences for embedded speech acts. In the unmarked case, this embedded speech act differs between negative RQs, which are usually hypothetical rejections, and positive RQs, which are always hypothetical assertions. By way of this asymmetry, I explain the peculiarities in the licensing conditions of RQs that can be shown to exist both in Swedish and German.

Contents

1	Introduction	1
1.1	Question types under investigation	3
1.1.1	Rejecting questions	3
1.1.1.1	Rejecting questions are biased	4
1.1.1.2	Rejecting questions are questions	6
1.1.1.3	Rejecting questions are not rhetorical questions	8
1.1.1.4	Positive rejecting questions are more marked than negative rejecting questions	9
1.1.2	Declarative questions	11
1.1.2.1	Declarative questions are ‘less biased’ than RQs	12
1.1.3	<i>etwa</i> -questions	12
1.1.3.1	<i>etwa</i> -Qs are more symmetric than RQs	13
2	Theoretical background	15
2.1	Question bias	15
2.1.1	Previous analyses of question bias	15
2.1.1.1	Sudo (2013)	15
2.1.1.2	Trinh (2014)	17
2.1.1.3	Gärtner & Gyuris (2016)	18
2.1.2	Problems with diagnosing question bias	25
2.1.2.1	List contexts	25
2.1.2.2	Various subtypes of epistemic bias	26
2.1.3	Case study: the bias profile of declarative questions	29
2.1.3.1	Influence of world knowledge	32
2.1.3.2	Asymmetry between PDQs and NDQs	33
2.1.3.3	Section summary	34
2.1.4	Speech act implicatures	36
2.1.4.1	[-POS] vs. [+NEG] epistemic bias	37
2.1.4.2	[-NEG] vs. [+POS]	39
2.1.4.3	[NONE] vs. [-POS]	41

2.1.4.4	[NONE] vs. [-NEG]	41
2.2	Rejecting questions – theoretical issues	42
2.2.1	On fronted negation in Swedish rejections and rejecting questions	42
2.2.1.1	Lindström (2007)	42
2.2.1.2	Petersson (2008)	45
2.2.1.3	Zeijlstra (2010)	46
2.2.1.4	Brandtler & Håkansson (2012), (2014)	49
2.2.1.5	Østbø Munch (2013)	52
2.2.2	On modal particles in rejecting questions and <i>etwa</i> -questions	53
2.2.2.1	Swedish	53
2.2.2.2	German	55
2.2.3	Pragmatic functions of RQs	58
2.2.4	Polarity items in German rejecting questions	62
2.2.4.1	Negative polarity items	62
2.2.4.2	Positive polarity items	65
2.3	Chapter summary	67
3	Experimental investigation of Swedish and German rejecting questions	68
3.1	Experiment I: evidential bias of Swedish RQs	69
3.1.1	Aim	69
3.1.2	Method	70
3.1.3	Results	71
3.1.4	Discussion	73
3.2	Experiment II: the intonation of Swedish rejecting questions	74
3.2.1	Aim	74
3.2.2	Method	75
3.2.3	Results	79
3.2.4	Discussion	81
3.3	Experiment IIIa: bias profile of Swedish questions containing <i>väl</i>	82
3.3.1	Aim	82
3.3.2	Method	83
3.3.3	Results	85
3.3.4	Discussion	89
3.4	Experiment IIIb: control study on the felicity of German PRQs	91
3.4.1	Aim	92
3.4.2	Method	92
3.4.3	Results	93

3.4.4	Discussion	95
3.4.4.1	Deontic plausibility	96
3.4.4.2	Licensing in the left context	97
3.4.4.3	Post-hoc analysis of item quality	99
3.5	Summary of experimental findings	102
4	Theoretical evaluation	104
4.1	Preliminaries	104
4.2	Characterizing the asymmetry between positive and negative rejecting ques- tions	105
4.3	The pragmatics of rejecting questions	107
4.4	The semantics of rejecting questions	110
4.4.1	Summary	115
4.5	A compositional analysis of Swedish rejecting questions	115
5	Conclusion and Outlook	126
5.1	Open issues	126
5.2	Other ‘hypothetic’ speech acts	129
6	Appendix – experimental materials	130
6.1	Experiment 1	130
6.1.1	Items	130
6.2	Experiment 2	135
6.2.1	Item 1	135
6.2.2	Item 2	136
6.2.3	Item 3	138
6.2.4	Item 4	139
6.2.5	Item 5	141
6.2.6	Item 6	142
6.2.7	Item 7	143
6.2.8	Item 8	145
6.3	Experiment 3	146
6.3.1	Swedish experiment	146
6.3.2	German experiment	161
	List of Figures	181
	List of Tables	182

Literature

183

1 Introduction

This thesis investigates a specific class of questions that exists in (at least) German and Swedish, termed rejecting questions (RQs) in Seeliger (2015). RQs come with declarative syntax, which is verb-second in German and Swedish (unlike polar questions, which have an interrogative syntax, which is verb-first). In the languages under consideration, RQs usually contain modal particles whose functions involve Common Ground (CG) management. The primary objective of this thesis is to provide a theory of RQs that can account for their distribution and pragmatic effects. A secondary objective of this thesis is a formalization of question bias. RQs are noteworthy in that their bias profile (a term to be explicated in Section 2.1) differs from the bias profile of other questions with declarative syntax – declarative questions (DQs) for short.

Put succinctly, questions come with one bias that is related to the context and one bias that is related to the speaker of the question. Declarative questions require that the contextual evidence match the questioned proposition in terms of polarity. RQs, on the other hand, require a contrast between the polarities of the contextual evidence and the questioned proposition. As for the bias that is related to the speaker, DQs generally only allow the conclusion that the speaker of the question did not previously assume the questioned proposition to be true. RQs always allow the conclusion that the speaker believed the questioned proposition to be true, and – in many, but not all, cases – would prefer to continue to believe it to be true. Examples of RQs are given in (1) for Swedish and in (2) for German.

- (1) a. Peter kommer [#](väl) inte?
Peter comes MP not
b. Inte kommer (väl) Peter?
not comes MP Peter
Both: “Surely Peter is not coming?”
- (2) Peter kommt doch wohl nicht?
Peter comes MP MP not
“Surely Peter is not coming?”

In Swedish, the negative marker *inte* can be fronted to the pre-verbal position in RQs. If it is fronted like in (1b), the modal particle *väl* is optional. If *inte* is in its normal position like

in (1a), *väl* is required if a RQ reading is desired. If *väl* is absent, like in (3), the question can only be understood as a DQ, i.e. it can only be uttered in a context in which there is evidence for the proposition “that Peter is not coming”.

- (3) Peter kommer inte?
 Peter comes not
 “Peter is not coming?”

The difference between the RQs in (1) and the DQ in (3) can be informally captured as follows: a DQ requires that there be contextual evidence for the questioned proposition, i.e. in this case it must be possible for the speaker to conclude from the context that it is likely that Peter is not coming. A DQ does not necessarily allow any conclusions about the speaker’s previous assumptions or wishes (except that s/he does not know the answer to the question).

The RQs in (1), on the other hand, require that there be contextual evidence for the negation of the prejacent, i.e. in this case it must be possible for the speaker to conclude from the context that it is likely that Peter is coming. Furthermore, RQs always allow conclusions about the speaker’s previous assumptions and/or wishes – in this case, the speaker previously assumed that Peter would not be coming, and/or s/he would prefer for Peter not to come. RQs thus always point out that a piece of contextual evidence stands in contrast to the speaker’s assumptions or hopes.

I use a model of question bias that is based on Sudo (2013). There are two kinds of bias in this model: *evidential bias*, which expresses what contextual evidence is required for a question to be felicitous, and *epistemic bias*, which expresses what conclusions may be drawn about the previous assumptions of the speaker of the question. In this model, negative RQs have a [+POS] evidential bias and a [+NEG] epistemic bias. Negative DQs, on the other hand, have a [+NEG] evidential bias and an epistemic bias whose value depends on the type of context.

The examples under discussion are negative RQs and DQs, but the bias facts are the same for positive RQs and DQs, just with reversed polarities. However, within each question type, positive and negative questions behave somewhat asymmetrically: PDQs and NDQs appear to be equally (un)marked, i.e. asking a PDQ in a context with evidence for a unnegated proposition seems to be just as felicitous as asking a NDQ in a context with evidence for a negated proposition. This is not the case with RQs. PRQs are generally more marked than NRQs – they are felicitous in fewer context types than NRQs. This is particularly noteworthy since it is usually negative questions that are more marked than their positive counterparts (e.g. the negative polar question *Isn’t Peter coming?* is felicitous in a subset of

the contexts in which the positive polar question *Is Peter coming?* is felicitous).

This suggests that evidential bias may be more complex than previously assumed: PRQs are only felicitous in contexts with evidence for the negation of the prejacent of the question, but they are not felicitous in *all* such contexts. NRQs, on the other hand, are also only felicitous in contexts with evidence for the negation of the prejacent of the question, but they seem largely impervious to the factors that often degrade PRQs.

The aim of this thesis is to provide an account of RQs that predicts these surprising asymmetries between DQs and RQs on the one hand, and between PRQs and NRQs on the other hand. The structure of the thesis is as follows:

The remainder of this introduction gives an overview of the properties of RQs – they are strongly biased, but nevertheless questions, not assertions or rhetorical questions – and also provides an overview of other, related question types that will serve as points of comparison throughout this thesis. Specifically, these other question types are declarative questions, and German polar questions containing the modal particle *etwa*.

Chapter 2 introduces the theoretic background on question bias, German and Swedish modal particles, and Swedish negation. It formally introduces RQs, and other, similar question types for the sake of comparison, specifically declarative questions and German polar questions containing the modal particle *etwa*.

Chapter 3 discusses experimental investigations of RQs which were conducted for this thesis. Two of the three experiments focused on Swedish RQs only, while the third experiment also investigated German RQs. The experiments dealt with i) the evidential bias value of Swedish NRQs and NDQs, ii) the intonation of Swedish rejections and RQs, and iii) the epistemic bias value and general felicity of Swedish and German RQs containing the modal particles *väl* (Swedish RQs) and *doch wohl* (German RQs). The experimental materials are reproduced in the appendix (Chapter 6).

Chapter 4 presents a novel account for the semantics and pragmatics of rejecting questions. At least in the case of RQs, question bias is not necessary as an atomic part of the theory. It follows instead partly from the semantics of RQs and partly from general pragmatic principles.

Chapter 5 concludes and points out open issues and avenues for future research.

1.1 Question types under investigation

1.1.1 Rejecting questions

Rejecting questions that fall within the scope of this dissertation are i) German declaratives that contain the modal particles *doch* and *wohl*, optionally negation, and which are used as

1.1 Question types under investigation

questions; ii) Swedish declaratives that contain the modal particle *väl*, optionally negation, which can optionally be fronted to the pre-verbal position, and which are used as questions. There are other ways of deriving rejecting questions (or questions with a near-identical pragmatic impact) in both languages; (4) gives some German examples.

- (4) a. Peter kommt doch (wohl) auch, oder?
Peter comes MP MP too or
“(But) Peter is coming, too, isn’t he?” (includes question tag)
- b. Peter kommt auch?!
Peter comes too
“Peter is coming, too?!” (incredulity intonation)

I focus in this thesis on what I consider canonical RQs – incredulity intonation, in particular, deserves more attention than I can give it here, since it seems to be able to combine with most, if not all, question types. In particular, it can combine with canonical RQs (instead of a DQ like (4b)), to an unclear effect:

- (5) Peter kommt doch wohl auch?!
Peter comes MP MP too
“Surely Peter is coming, too?!”

Canonical RQs are strongly biased – in particular, they convey that the speaker had expected, and in a sense continues to expect, the negation of the prejacent of the question to be true. Nevertheless, they cannot be analyzed as assertions – they are questions. Analyzing them as rhetorical questions, i.e. questions whose answer is known to the speaker and which are uttered in order to convince the addressee of the truth of a proposition, does not work, either. Finally, RQs exhibit the curious property that positive RQs often appear to be more marked than negative RQs. I illustrate these points in the remainder of this section. The questionhood diagnostics used are based on those used in Reese (2007).

1.1.1.1 Rejecting questions are biased

In a context with no contextual evidence regarding the prejacent of the question available, NRQs are infelicitous:

- (6) A and B talk on the phone. A wants to know what the weather at B’s place is like, with no information available. A asks:
- #Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

1.1 Question types under investigation

A NRQ is felicitous if there is contextual evidence for the unnegated prejacent of the question, i.e. for *it is raining* in these examples:

- (7) A is sitting in a windowless room, when B enters carrying a dripping wet umbrella.
A asks:

Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

If there is contextual evidence for the negated prejacent of the NRQ – e.g. for the proposition that *it is not raining* – then the NRQ is infelicitous, cf. (8). Overall, we find that NRQs have a [+POS] evidential bias in the terms of Sudo (2013), i.e. they require contextual evidence for the non-negated version of the questioned proposition.

- (8) A is sitting in a windowless room, when B enters dry and wearing sunglasses. A asks:

#Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

Turning to epistemic bias, NRQs can only be uttered felicitously by a speaker who believed (and possibly even continues to believe) the negated prejacent of the question, i.e. the surface form of the NRQ minus modal particles, but including negation. This is a [+NEG] epistemic bias in Sudo’s terminology. In (9), the speaker assumes that the proposition “that it is not raining is true”, based on the weather of the last two weeks.

- (9) A and B are on vacation, where it has been sunny for two weeks straight. A is sitting indoors, assuming that it is still sunny, when B enters dripping wet. A asks:

Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

If the speaker is epistemically unbiased or neutral, NRQs are not felicitous:

- (10) A and B are on vacation, where it has been sunny as often as it has been rainy. A is sitting indoors, with no clue as to the current weather, when B enters dripping wet.
A asks:

??Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

1.1 Question types under investigation

In the epistemically neutral case, there is an influence of speaker preference – since people on vacation can be assumed to prefer sunny weather, it is accommodated that the speaker of A *hoped* that it would be sunny (or not raining). Hoping is, however, not the same as believing. Compare the epistemically neutral scenario if the prejacent of the question is changed in order to change the influence of speaker preference:

- (11) A and B are on vacation, where it has been sunny as often as it has been rainy. A is sitting indoors, with no clue as to the current weather, when B enters wearing sunglasses. A asks:

#Es scheint doch wohl nicht die Sonne?
it shines MP MP not the sun
“Surely the sun isn’t shining?”

(11) is a markedly odder question than (10), because it is harder to accommodate that the speaker optimistically believed on the grounds of personal preference (i.e. *hoped*) that it would be raining. In order for a NRQ to be completely felicitous, justified (but not necessarily true) belief in the negated prejacent is necessary, which is the case in (9), but not in (10) and (11).

Finally, if the speaker has grounds to believe the unnegated prejacent of the question, then NRQs are infelicitous¹:

- (12) A and B are on vacation, where it has been raining for two weeks straight. A is sitting indoors, assuming that it is still raining, when B enters dripping wet. A asks:

#Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

1.1.1.2 Rejecting questions are questions

Rejecting questions are genuine, information-seeking questions.² This can be shown by comparing RQs with rejections. Rejections commit their speakers to a proposition, RQs do not:

- (13) *Context: at a meeting.*

A: Wir müssen noch auf Peter warten.
we must still on Peter wait

¹Sarcastic intonation can rescue this RQ. Sarcasm is beyond the scope of this thesis.

²I set aside idiomatic RQs like *Das wird man doch wohl noch sagen dürfen?* (“Surely one is still allowed to say such a thing?”) in the remainder of this dissertation. I assume that these are conventionalized markers of disapproval with no question function, i.e. they are not rejecting *questions*.

1.1 Question types under investigation

“We still have to wait for Peter.”

B: Peter kommt doch nicht.

Peter comes MP not

“Peter is not coming (as you should know).”

B’s rejection in (13) commits B to the fact that $p \notin \text{CG}$, where p is “that Peter is coming to the meeting”. If Peter later shows up to the meeting, B can be held accountable for having been wrong, cf. Seeliger (2015) on this diagnostic.

RQs are less strong than rejections:

(14) *Context: at a meeting.*

A: Wir müssen noch auf Peter warten.

we must still on Peter wait

“We still have to wait for Peter.”

B: Peter kommt doch wohl nicht?

Peter comes MP MP not

“Surely Peter is not coming?”

B’s RQ in (14) does not commit B to anything going forward, although the interlocutors can tell that B would *prefer* for $p \notin \text{CG}$ to be the case. If Peter later shows up to the meeting, it is not possible to hold B accountable for anything.

We can also use other diagnostics to show that RQs are questions. Reese (2007) shows that speech acts with a questioning illocutionary force can be preposed with “Tell me”. The German equivalent *Sag mal*: is compatible with polar questions (15), but not with assertions (16).³ Applying this test to RQs and rejections, we find that RQs pattern with questions in allowing “Tell me” (17), and rejections pattern with assertions in not allowing it (18).

(15) *Sag mal: regnet es?*
say once rains it
“Tell me, is it raining?”

(16) *#Sag mal: es regnet.*
say once it rains
“Tell me, it’s raining?”

(17) *Sag mal: es regnet doch wohl nicht?*
say once it rains MP MP not
“Tell me, surely it’s not raining?”

(18) *#Sag mal: es regnet doch nicht.*
say once it rains MP not

³(16) is fine on the irrelevant literal reading of *sag mal*, i.e. as an exhortation to the addressee to say *es regnet* (“it is raining”).

“Tell me, it’s not raining (as you should know).”

1.1.1.3 Rejecting questions are not rhetorical questions

Showing that RQs are not rhetorical questions is a little more tricky. Rhetorical questions can be treated like assertions by the addressee, according to Reese (2007). Reese points out that the addressee of a truly rhetorical question can (and is usually expected to) react to the indirect assertion, instead of treating the question like a genuine, information- or confirmation-seeking inquiry. (19) illustrates the possibility of agreeing to the indirect assertion of a rhetorical question at the propositional level:

- (19) A: After all, did he ever lift a finger to help you?
B: You’re right(, he never helped me).

However, this diagnostic is rather complicated. For example, it is also possible to agree at the speech act level, e.g. agreeing with a command like in (20):

- (20) A: Open the window!
B: You’re right(, in telling me to open the window, because it IS stuffy in here).

In (20), B’s assessment targets A’s speech act of issuing a command, evaluating this speech act as justified. The optional continuation gives a reason for why the command was justified – it crucially does not agree with the speaker at the propositional level, which is not surprising given that the preceding imperative does not provide a propositional discourse antecedent. Agreement at the level of the speech act is also possible for rhetorical questions:

- (21) A: After all, did he ever lift a finger to help you?
B: You’re right to point out that he never did.

Finally, note that even positive polar questions can marginally be agreed with at the propositional level by targeting the positive prejacent of the question, cf. (22); and at the speech act level, which requires elaboration, however, cf. (23).

- (22) A: Is it raining?
B: ?You’re right. [=Yes, it is raining.]

- (23) A: Is it raining?
B: You’re right – we SHOULD be thinking about that question.

Turning to German RQs, they cannot be agreed with, neither at the propositional nor at the speech act level. (24) is an attempt to agree with an RQ at the propositional level, while the addressee in (25) tries to agree with the speaker's epistemic bias.

(24) *Context: the addressee comes in dripping wet.*

A: Es regnet doch wohl nicht?
it rains MP MP not
"Surely it is not raining?"

B: #Du hast Recht(, dass es regnet).
you have right that it rains
"You are right (that it is raining)."

(25) *Context: the addressee comes in dripping wet.*

A: Es regnet doch wohl nicht?
it rains MP MP not
"Surely it is not raining?"

B: #Du hast Recht (auf deinen Glauben, dass es nicht regnet, zu verweisen).
you have right on your belief that it not rains to point.out
"You are right (in pointing out your belief that it is not raining)."

The data here and intuitions about them are rather subtle – the important point is that answering a RQ by just saying *Du hast Recht* ("you are right") without any elaboration is completely incoherent. In particular, the discourse referent that the speaker is claimed to be right about is unclear. All things considered, to the extent that the "you are right" test can be used to diagnose anything, it diagnoses that German RQs are unlike assertions, PPQs, rhetorical questions, and commands, all of which can be agreed to by the addressee on at least one level.

1.1.1.4 Positive rejecting questions are more marked than negative rejecting questions

Positive rejecting questions are RQs that do not contain negation. Their evidential bias is [+NEG] and their epistemic bias [+POS]. Another term for them could thus be *insisting questions* since the speaker uses them to insist, in the face of evidence, on a positive proposition that was (or is) part of his/her beliefs. While PRQs are the perfect counterparts of NRQs in terms of their biases, there is a striking asymmetry: PRQs are quite often unexpectedly degraded in contexts in which parallel NRQs are fine. (26) illustrates this.

(26) A and B are on vacation, where it has been sunny for two weeks straight. A is sitting indoors, assuming that it is still sunny, when B enters dripping wet.

1.1 Question types under investigation

- a. ?Es scheint doch wohl die Sonne?
it shines MP MP the sun
“Surely the sun is shining?”
- b. Es regnet doch wohl nicht?
it rains MP MP not
“Surely it’s not raining?”

That this asymmetry is not just the result of an influence of speaker preference can be shown by constructing an example where the preadjacent propositions are switched around:

- (27) A and B are on vacation, where it has been raining for two weeks straight. A is sitting indoors, assuming that it is still raining, when B enters dry and wearing sunglasses.
- a. ?Es regnet doch wohl?
it rains MP MP
“Surely it’s raining?”
 - b. Es scheint doch wohl nicht die Sonne?
it shines MP MP not the sun
“Surely the sun is not shining?”

In both contexts, all else being equal, the PRQ is markedly worse than the NRQ. Curiously, the PRQ can be improved by modalizing the proposition using the modal verb *werden* (will), used in formulating hypotheses of the speaker:⁴

- (28) a. ?Es scheint doch wohl die Sonne?
it shines MP MP the sun
“Surely the sun is shining?”
- b. Es wird doch wohl die Sonne scheinen?
it will MP MP the sun shine
“Surely the sun is shing, I assume?”

In the examples so far, the contextual evidence was only suggestive of the weather outside, and the PRQs only mildly degraded. In fact, the stronger the evidence is, the less felicitous PRQs are (relative to NRQs, who seem insensitive to the strength of the contextual evidence). Consider a context with conclusive visual evidence:

- (29) A and B are on vacation, where it has been raining for two weeks straight. A and B are sitting indoors, assuming that it is still raining, when A looks out of the window and sees that it is sunny.

⁴In fact, positive rejecting questions are quite often modalized in this way.

- a. #Es regnet doch wohl?
it rains MP MP
“Surely it’s raining?”
- b. Es scheint doch wohl nicht die Sonne?
it shines MP MP not the sun
“Surely the sun is not shining?”

The PRQ in (29a) is a very strange utterance in this context, while the NRQ in (29b) is unremarkable and idiomatic. Characterizing and explaining this asymmetry between PRQs and NRQs is one of the major goals of this dissertation.

1.1.2 Declarative questions

Declarative questions (DQs) are sentences with declarative syntax – i.e. verb-second in German and Swedish – that are used as questions. They are usually, but not always, marked as questions by a special intonation (cf. von Essen 1966). In German, this is usually an utterance-final rise. In Swedish, phonological questionhood cues are more complex, but an increase in $f0_{max}$ across the whole utterance appears to be the most prominent cue (cf. House 2003; Gårding 2009; Ambrazaitis et al. 2015). (30) gives an example of a German DQ.

- (30) Es scheint die Sonne?
it shines the sun
“The sun is shining?”

In terms of their meaning, DQs are more biased than corresponding polar interrogatives: they require contextual evidence for the prejacent of the question, which positive polar questions do not.

Gunlogson (2003, 2008) models DQs as conditional assertions, with which the speaker signals that s/he is willing to commit to the prejacent of the question if the addressee commits to it first. Krifka (2012) models DQs as requests for assertions, with which the speaker can commit to a proposition ‘via’ the addressee. Trinh (2014) analyzes DQs as regular, bipolar questions that differ from polar questions only in that the speaker additionally signals that s/he has evidence for the prejacent of the question.

No matter which analysis of DQs is chosen, one important difference between DQs and RQs is that DQs require the addressee to be a potential source for the questioned proposition. A DQ like (30) can only be asked of someone who has the potential authority to assert the proposition “that the sun is shining”. No such condition is placed on RQs: the addressee of a RQ must not necessarily be able to reject anything. This suggests that DQs and RQs

are fundamentally different, even though both are questions with declarative syntax. One important difference is that their epistemic biases usually have different values, which I turn to next.

1.1.2.1 Declarative questions are ‘less biased’ than RQs

The evidential bias of a DQ of a given polarity may be the opposite of the evidential bias of a RQ of the same polarity, but when it comes to their epistemic bias, DQs can be less biased than RQs – the conclusions that they allow about the previous epistemic state of the speaker are weaker than it is the case with RQs. Section 2.1.3 goes into this in greater detail, but for now consider the following contrast:

- (31) *Context: the speaker is helping the addressee plan the addressee’s birthday party. The speaker does not know any of the guests. There is a list with planned party guests, on which an entry reading “Peter” is crossed out. The speaker says:*
- a. Dieser Peter hier kommt nicht?
this Peter here comes not
“So this Peter guy is not coming?”
 - b. #Dieser Peter hier kommt doch wohl?
this Peter here comes MP MP too?
“Surely this Peter guy is coming, too?”
 - c. #Dieser Peter hier hat doch wohl nicht abgesagt?
this Peter here has MP MP not cancelled
“Surely this Peter guy did not cancel?”

The DQ in (31a) allows for the possibility that the speaker was previously neutral or unopinionated with respect to Peter’s coming (as indicated by the markers of ignorance *dieser* and *hier*, “this” and “here”). The speaker clearly sources the prejacent of the question from the list – it can be accommodated that s/he is inviting elaboration on *why* the name is crossed out on the list. The RQs in (31b) and (31c), regardless of polarity, do not allow this. The PRQ in (31b) necessarily conveys that the speaker expected that Peter would be coming; the NRQ in (31c) necessarily conveys that the speaker expected that Peter would not cancel his attendance. RQs do not allow for epistemically unbiased speakers; DQs can allow for epistemically unbiased speakers. This is the sense in which DQs are ‘less biased’ than RQs.

1.1.3 *etwa*-questions

The German modal particle *etwa* makes polar questions ‘more biased’. A positive polar question like in (32a) can be uttered by an epistemically neutral speaker, and it does not

1.1 Question types under investigation

require any contextual evidence. It can be uttered out-of-the blue. A positive polar question containing *etwa* like in (32b), on the other hand, indicates that the speaker assumed the negation of the prejacent of the question to be true, and that there is evidence in support of the prejacent of the question. It is infelicitous in out-of-the-blue contexts like (32).

(32) *Context: the speaker and the addressee are talking long-distance on the phone. The speaker has no idea what the weather is like at the addressee's location. The speaker asks:*

- a. Wie ist so das Wetter? Regnet es?
how is so the weather rains it
“What is the weather like? Is it raining?”
- b. Wie ist so das Wetter? #Regnet es etwa?
how is so the weather rains it MP
“What is the weather like? Is it raining (to my surprise)?”

This means that positive *etwa*-questions (*etwa*-Qs for short) share a bias profile with negative RQs (evidential bias: [+POS], epistemic bias: [+NEG]), and negative *etwa*-Qs share a bias profile with positive RQs (evidential bias: [+NEG], epistemic bias: [+POS]). There is one important difference, however, which is that *etwa*-Qs do not exhibit the same asymmetry between the two polarities that RQs do when used in the face of conclusive evidence (instead of merely suggestive evidence).

1.1.3.1 *etwa*-Qs are more symmetric than RQs

NRQs can usually be used even if the contextual evidence is strong enough to conclusively answer the question (33a), while PRQs are degraded in such a context (33b). This is not the case with *etwa*-Qs, where both the positive (33c) and negative (33d) version can be used felicitously.

(33) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office and see that the window is open. The speaker says:

- a. Es ist doch wohl nicht das Fenster auf?
it is MP MP not the window open
“Surely the window is not open?”
- b. #Es ist doch wohl das Fenster zu?
it is MP MP the window closed
“Surely the window is closed?”
- c. Ist etwa das Fenster auf?
is MP the window open?

1.1 Question types under investigation

“Is the window open (to my surprise)?”

- d. Ist etwa das Fenster nicht zu?
is MP the window not closed
“Is the window not closed (to my surprise)”

In other words, the speaker of (33d) can use an *etwa*-Q to point out a previous belief in the proposition “that the window is closed”. The same speaker could not use a PRQ to do this, as indicated by the infelicity of (33b). Therefore, it is not only necessary to explain the presence of this asymmetry between polarities in the case of RQs, it will also be necessary to explain its absence in the case of *etwa*-Qs.

2 Theoretical background

This chapter discusses the status of question bias in greater detail, as well as the peculiarities of Swedish and German RQs.

2.1 Question bias

Question bias is an intuitive concept at first glance, but as evidenced by the high amount of disagreement on specific question types' bias values in the literature (cf. Domaneschi et al. 2017 for an overview), diagnosing it accurately has its difficulties. This section first gives an overview of previously proposed analyses of question bias, and then catalogs and attempts to account for the difficulties involved in diagnosing specific question bias values. That said, rejecting questions with their very 'narrow' bias profile (on which there does not seem to exist a lot of disagreement among native speakers) are easier to account for than e.g. DQs or ONPQs.

2.1.1 Previous analyses of question bias

2.1.1.1 Sudo (2013)

Sudo (2013) is an investigation of non-truth-conditional aspects of the meanings of polar questions in English and Japanese, in particular of two kinds of bias that these questions come with. The truth-conditional meaning of a polar question is the set of its possible answers, i.e. $\{p, \neg p\}$ (Hamblin 1958, Karttunen 1977), which is identical for any two questions $?p$ and $? \neg p$. These questions, one containing negation and the other not containing negation, have different biases, however.

Sudo distinguishes two kinds of bias: evidential bias and epistemic bias. Evidential bias captures restrictions on the distribution of a question – for any question, there are contexts in which it cannot occur felicitously. Some questions require evidence for one of the propositions denoted by the question $\{p, \neg p\}$, while others require that there not be evidence for one of these propositions. For example, a polar question with outer negation like “Isn't there a vegetarian restaurant around here?” cannot be asked in a context in which there is evidence for the positive proposition “there is a vegetarian restaurant around here”

(cf. Buring and Gunlogson 2000). In Sudo’s terminology, this is a [-POS] evidential bias, i.e. the question can only be uttered in neutral contexts and in contexts in which there is evidence for the negated proposition “there is no vegetarian restaurant around here”.

Epistemic bias, on the other hand, allows conclusions about the private beliefs or expectations of the speaker of the question. For example, a polar question with outer negation conveys that the speaker considers the positive answer likely to be true. This is a [POS] epistemic bias in Sudo’s terminology. Sudo assumes only three possible values for epistemic bias: [POS], [NEUTRAL] and [NEG], in contrast to the values for evidential bias, which include ‘minus’-biases covering two out of three values at once. To account for declarative questions, it will be necessary to allow ‘minus’-biases also for epistemic bias, so I will amend Sudo’s system regarding this point.

One crucial difference between Sudo’s original proposal and this proposal is the proposed epistemic bias of positive polar questions: in Sudo (2013), they are analyzed as not having any epistemic bias. I think this is incorrect – any question will at least allow the conclusion that the speaker does not already know, or presume to know, that the prejacent of the question is true.

The possible values for evidential and epistemic biases of questions are summarized in Table 2.1. An open question that is not addressed by Sudo (but is addressed by Gärtner and Gyuris 2016) is whether the space of possible bias combinations is constrained and if so, how. This question can be split into two issues: firstly, are the two bias types related somehow, i.e. does a certain value for one of the biases restrict the possible values for the other bias? Secondly, does either of the biases follow compositionally from the semantics of the question? This chapter investigates these issues.

Bias value	Evidential bias: contextual evidence for...	Epistemic bias: speaker assumptions
[+POS]	p	p
[NEUTRAL]	neither p nor $\neg p$	unbiased
[+NEG]	$\neg p$	$\neg p$
[-POS]	$\neg p$ or none	unbiased or $\neg p$
[-NEG]	p or none	unbiased or p

Table 2.1: Values for evidential and epistemic biases

2.1.1.2 Trinh (2014)

A recent account of the meaning and evidential bias of yes/no-questions is Trinh (2014). Trinh's approach differs from previous approaches (Gunlogson 2003, Krifka 2012, Farkas and Roelofsen 2012, *inter alia*) in that it treats declarative questions and polar questions as fundamentally identical: they both have a regular question meaning $\{p, \neg p\}$. Furthermore, Trinh sets aside the usually assumed distinction between negative polar questions with inner negation (INPQs) and those with outer negation (ONPQs). Trinh explicitly excludes epistemic bias from the scope of his analysis.

At the core of Trinh's proposal lie two pragmatic principles, called Prejacent Compatibility (PC) and Neutral Question (NQ). Prejacent Compatibility says that if there is contextual evidence that, in principle, favors one of the answers to a question, the question's prejacent¹ must not contradict this evidence. For example, in a context in which the speaker sees John write with his left hand, only the questions "Is John left-handed?" and "Is John not right-handed?" (and their counterparts with declarative syntax) are felicitous, but not "Is John right-handed?" and "Is John not left-handed?". The second principle, Neutral Question, states that in a context in which there is evidence neither for p nor for $\neg p$, only a positive polar question can be used felicitously (in Trinh's terminology, this is an inverted positive question).

Taken together, these two principles derive the evidential biases of English yes/no-questions as described in the literature (e.g. Büring and Gunlogson 2000 for polar questions and Gunlogson 2003 for declarative questions): positive polar questions can occur in contexts with evidence for p (via PC) and in neutral contexts (via NQ) (in other words, they have a [-NEG] evidential bias), negative polar questions can occur only in contexts with evidence for $\neg p$ (via PC)², PDQs in contexts with evidence for p (via PC) and NDQs in contexts with evidence for $\neg p$ (via PC).

It would be desirable to find one underlying source for both principles. Trinh points out an immediately apparent problem with this: Prejacent Compatibility is a purely semantic principle – a question's prejacent must match a certain proposition, whose syntactic form is

¹The prejacent of a question is the proposition denoted by the declarative sentence that the question is derived from.

²With the caveat that Büring and Gunlogson (2000) and Romero and Han (2004) claim that negative polar questions can also occur in contexts without any contextual evidence, which Trinh also concedes for the following example:

- (i) Context: *Preparing for a party*
A: Mary does not smoke.
B: What about John? Does he not smoke?

I will return to this issue in section 2.1.2.1.

irrelevant – while Neutral Question is a purely syntactic principle – only a question’s form is relevant here, while the meaning of its prejacent plays no role in determining felicitousness.

Trinh’s proposed solution is that some questions come with an evidential operator that presupposes that the speaker of the question has evidence for the prejacent. All declarative questions come with this evidential operator, which accounts for the fact that a positive declarative question $?p$ requires contextual evidence for p , while a negative declarative question $?¬p$ requires contextual evidence for $¬p$. The important point is that this analysis predicts declarative questions’ evidential biases to be an integral part of their semantics (instead of being e.g. a felicity condition).

One potentially problematic aspect of Trinh (2014) is the use of example questions that are about proposition that are inherently biased because of world knowledge (the handedness of a particular person), meaning that even a context that is seemingly neutral with respect to contextual evidence might be biased after all (i.e. in the absence of evidence about a particular person’s handedness, I might still assume them to be right-handed on the basis of the indirect evidence that most people are right-handed). This problem is acknowledged by Trinh himself in footnote 8, p. 230. He argues that the root problem is the lack of a definition of contextual evidence. I come back to this issue in section 2.1.3.1.

2.1.1.3 Gärtner & Gyuris (2016)

Gärtner and Gyuris (2016) investigate the space of possible question bias combinations that is opened up by Sudo (2013)’s proposal of splitting up a particular question’s bias into evidential bias and epistemic bias (cf. section 2.1.1.1). They note that, if no restrictions are placed on possible combinations, the theory predicts the existence of 117.649 bias profiles (for any particular question type that can be used as a PPQ, an ONPQ, and an INPQ). This is the result of an independent combination of 7 values for evidential bias (given in Table 2.2) crossed with 7 values for epistemic bias, for a total of 49 combinations for a single polarity of a particular question type, raised to the power of three to account for the three polarities.³

It seems quite unlikely that every single one of these combinations is actually instantiated across the languages of the world. Gärtner and Gyuris (2016) note that there are empirical generalizations that can be made on the basis of the data that they consider (English V1-polar questions, three types of Japanese interrogatives, and two types of Hungarian interrogatives), namely generalizations about bias combinations that do not show up, and as such might be ruled out by general principles. Additionally, Gärtner and Gyuris (2016) of-

³For question types like RQs and DQs, if they are analyzed as not having two distinct negative subtypes, the resulting bias space would still contain $(7 * 7)^2 = 2401$ bias profile combinations.

G&G	Sudo
{+}	[+POS]
{-}	[+NEG]
{%}	[NEUTRAL]
{+, %}	[-NEG]
{+, -}	n/a
{%, -}	[-POS]
{+, %, -}	[NONE]

Table 2.2: Correspondence of bias terminology in Gärtner and Gyuris (2016) and Sudo (2013)

fer up three heuristics that, while strictly speaking not directly derived from their data set, can still be motivated on conceptual grounds.

It is noteworthy that Gärtner and Gyuris (2016) do not *a priori* rule out ‘wide’ values for epistemic bias, i.e. minus-biases in Sudo’s terminology, or sets with a cardinality of 2 in their own terminology. I claim in this dissertation that declarative questions can, at least in certain contexts, have epistemic biases of this kind. However, as I will discuss below, restraining epistemic bias to [+POS] and [NONE] is one of Gärtner and Gyuris (2016)’s principles that are used to narrow down the bias profile space, so they end up constraining possible values for epistemic bias even more than Sudo.

The principles that Gärtner and Gyuris (2016) propose could narrow down the bias profile space are called *No Uniformity*, *PPQ ≠ NPQ*, *Markedness*, *Polarity Match / QA Alignment*, *Convexity*, *Narrow Epistemic Choice*, and *Static Complementarity*.

No Uniformity stipulates that it is unlikely for a question type’s bias profile to consist of the same value for each of its dimensions – in other words, it rules out e.g. a question type with a [+POS] value for the epistemic and evidential biases of all of its three polarities. While this constraint seems rather well motivated on conceptual grounds, the reduction in total number of bias profiles is very small, as *No Uniformity* rules out only 7 out of 117.649 profiles.

PPQ ≠ NPQ says that whichever bias values a question type’s PPQ interpretation has cannot be its NPQ interpretations’ bias values. Taking English PPQs with their [-NEG] evidential and [NONE] epistemic bias as an example, this constraint rules out these specific values for INPQs and ONPQs. Gärtner and Gyuris (2016) point out that this constraint is broken by one of the question types from their data set, namely Hungarian *e*-interrogatives, which require a neutral context both as PPQs and ONPQs.

Markedness has two sub-constraints: *Quantitative Markedness* and *Qualitative Markedness*. *Quantitative Markedness* postulates that negated questions are more marked than

positive questions, and as a consequence negated questions should have a more marked – i.e. narrow – bias profile. Take English PPQs as an example: their bias profile can be expressed as the pair of sets $\{\{+^{evid}, \%^{evid}\}, \{+^{epist}, -^{epist}, \%^{epist}\}\}$. The evidential bias set has a cardinality of 2 and the epistemic bias set a cardinality of 3, for a sum cardinality of 5. The prediction then is that English NPQs’ bias profiles should have sum cardinalities of 5 or less. This is borne out, as INPQs’ bias profile has a sum cardinality of 2 (they require negative evidence, and indicate that the speaker assumed the unnegated prejacent of the question), while ONPQs’ bias profile has a sum cardinality of 3 (they can be uttered in contexts with no evidence or contexts with evidence for the negated prejacent of the question, and they indicate that the speaker assumed the unnegated prejacent of the question to be likely or true). *Quantitative Markedness* is thus a constraint that, while initially motivated on purely conceptual grounds, appears promising from a comparative point of view, as well.

Qualitative Markedness postulates that an absence of contextual evidence is the default, unmarked context. An unmarked context consequently requires that unmarked question types are chosen over marked ones – i.e. PPQs should be chosen over NPQs in contexts with no contextual evidence. In contexts with contextual evidence either way, marked NPQs must be used. English ONPQs provide an immediately apparent counterexample to this constraint, since their evidential bias is [-NEG], i.e. it includes the neutral possibility even though the question is negated (at least apparently so). When it comes to epistemic bias, Gärtner and Gyuris (2016) propose that ignorance could be treated as the unmarked belief state, which would again predict that only PPQs can be used in contexts in which there is at least the possibility that the speaker is unbiased with respect to the prejacent of the question. Gärtner and Gyuris (2016) point out that *Qualitative Markedness* is very similar to Trinh (2014)’s Neutral Question, which states that in contexts with no evidence either for or against the prejacent of a question, only a positive polar question is felicitous (as opposed to a polar question containing negation and to a positive declarative question.)

Polarity Match / QA Alignment rules out that either of the biases of a PPQ is just [+NEG] and that either of the biases of a NPQ is just [+POS] – i.e. the surface polarity of the question and its bias values should not disagree completely. Obviously, both types of English NPQ violate this constraint, since they both have a [+POS] epistemic bias. Two stronger formulations are also proposed – *Avoid Disagreement*, in which the negative possibility must not be part of a PPQ’s biases and the positive possibility must not be part of an NPQ’s biases (meaning, for example, that a question with positive polarity and a [-POS] bias is predicted to be impossible – note that PDQs have a [-POS] epistemic bias); and *Don’t Rule Out Agreement*, in which the positive possibility must be part of a PPQ’s biases and the negative possibility part of those of an NPQ.

Convexity rules out a bias profile for which Sudo did not provide a name: $\{+, -\}$. In prose, questions are ruled out that require the context to be biased, but ‘don’t care’ about the polarity of this bias. This goes for both kinds of bias – a counterexample would thus be a question type that requires that there be contextual evidence either for or against the prejacent of the question but is infelicitous in contexts with no evidence, or a question type that only allows the conclusion that the speaker of the question is biased with respect to the prejacent of the question, but not in which direction. *Convexity* is primarily motivated on typological grounds – this particular bias does not show up in Gärtner and Gyuris (2016)’s data set. Gärtner and Gyuris (2016) point out that there is however no good conceptual reason why this constraint should hold generally. For example, the Hungarian *e*-interrogatives that form part of their data set require that there be no contextual evidence one way or the other. Assuming that other, rivaling question types make the most of ‘unused’ bias space, one would expect that one of them would have a $\{+, -\}$ evidential bias – which is not borne out.⁴

Narrow Epistemic Choice is a particularly interesting constraint – it is based on the observation that most values for epistemic bias occurring in Gärtner and Gyuris’s data set are [+POS] or [NONE], and thus constrains epistemic biases in general to these two choices. Furthermore, since positive epistemic bias is arguably more marked than neutral epistemic bias, *Qualitative Markedness* predicts that [+POS] will tend to be the epistemic bias of negated polar questions, since these are more marked in form, while [NONE] will tend to be the epistemic bias of positive polar questions. While this thesis extends Sudo (2013)’s proposal by allowing ‘wide’ [-POS] and [-NEG] values not only for evidential bias, but also for epistemic bias, *Narrow Epistemic Choice* further narrows the original proposal down. Gärtner and Gyuris (2016) point out that Japanese *desho*-interrogatives violate this constraint, since both INPQs and ONPQs of this question type have [+NEG] epistemic bias. It thus seems that this constraint might be too strong.

Static Complementarity is a combination of *Convexity* and *Narrow Epistemic Choice*. The latter constraint leaves only two cells for epistemic biases, $\{+\}$ and $\{+, -, \%\}$ in Gärtner and Gyuris (2016)’s terminology (or [+POS] and [NONE] in Sudo’s). These two cells are then ruled out for evidential biases, along with $\{+, -\}$ on the basis of *Convexity*. This leaves only 512 bias profiles for questions with two scopes of negation, or $(4 * 2)^2 = 64$ bias profiles for questions with only one scope of negation. One rather extreme prediction of this constraint is that there should be no questions (be they positive or negative) that can only felicitously be used in contexts with evidence for the prejacent of the question, i.e. questions with a [+POS] evidential bias. Positive declarative questions are of this exact type, as will

⁴I think this additional assumption of a maximal exploitation of bias space by a language’s question types is too strong, almost uncharitably so.

be discussed below. This constraint also predicts the absence of any general purpose interrogatives that can be used regardless of the presence or polarity of any contextual evidence. Japanese *desho*-interrogatives are of this type, so both predictions are not borne out.

Discussion

ONPQs are generally claimed to be licit in contexts with evidence for the negated prejacent of the question, as well as in neutral contexts (i.e. ONPQs have a [-POS] evidential bias).⁵ It is interesting to note that, in their discussion of Hungarian *e*-interrogatives, Gärtner and Gyuris (2016) use a context with contextual evidence for the negated prejacent of the question in which English and German ONPQs would be just as infelicitous as the *e*-interrogative. (1) gives an example with negative contextual evidence in which an English ONPQ is felicitous, while (2) is modeled on example (9) from Gärtner and Gyuris (2016).

- (1) A: Sadly, we can't go eat out in this town.
S: Isn't there a vegetarian restaurant around here?
- (2) *Context: A and S stand in front of a billboard saying that the last restaurant in the town has closed for good.*
S: #Isn't there a vegetarian restaurant around here?
(based on example (9) in Gärtner and Gyuris 2016: 9)

Both contexts in (1) and (2) provide evidence for the proposition “There is no vegetarian restaurant around here”. The difference in acceptability appears to be a consequence of the differing levels of authority with which this proposition is introduced – the sign in (2) is in an intuitive sense more authoritative than the addressee in (1) since it is extremely unlikely to have been put up by someone who had failed to account for the existence of the vegetarian restaurant at-issue, either by forgetting about it or by never having learned of its existence in the first place. The addressee in (1), on the other hand, could simply have failed to account for the existence of the vegetarian restaurant for these or any other reasons. The addressee's authority thus seems to be low enough for an ONPQ to be used to indicate continued belief in the proposition “there is a vegetarian restaurant around here”.

Not only the strength of contextual evidence plays a role in determining a question's felicity, but focus marking in the question itself also seems to be able to influence felicity:

- (3) *Context: A and S stand in front of a billboard saying that the last restaurant in the town has closed for good.*
S: Isn't there a VEGETARIAN restaurant around here?

⁵Trinh (2014) disputes that they are licit in truly neutral contexts.

Here, the focus marking seems to have the effect of the speaker acknowledging the absence of regular restaurants, while indicating that “there is a X restaurant around here” might still be true for X = “vegetarian”.

Finally, an ONPQ in a context with strong contextual evidence like (2) can also be improved by inserting a marker of incredulity like “Oh really?” or “I don’t think so” before the question proper. These markers probably serve the purpose of explicitly rejecting that the contextual evidence is of any value, which allows a question indicating a belief in *p* to be asked. These facts suggest that explicit acknowledgment (or dismissal) of contextual evidence is intricately linked with the issue of a question type’s felicity.

The following examples provide exceptions to the constraints proposed by Gärtner and Gyuris (2016) that have not already noted by the authors themselves. It should be pointed out that Gärtner and Gyuris (2016) allow for the possibility that more marked question types can violate their proposed constraints. In particular, they point out that Japanese *desho*-interrogatives seem similar to English declaratives appended with the tags *correct?* or *right?*, and as such are used as double-checking questions. They also propose that if a question primarily conveys incredulity, it can violate *Static Complementarity*. Finally, they point out that inserting particles like *really* into a question can change its bias values. Since the question types under discussion here are either declarative in syntax with obligatory modal particles, or polar questions containing the particle *etwa*, none of the counter-examples to be discussed necessarily pose insurmountable problems to the proposed constraints.

- (4) Context: *S sees a list of party guests, on which Peter’s name has been crossed out.*
Peter isn’t coming to the party?

(4) is a counterexample to *Qualitative Markedness*, since it is a negated question with a [-NEG] epistemic bias that allows for the possibility of an ignorant or agnostic speaker. That this is the case can be made clearer by inserting markers of ignorance into the question:

- (5) Context: *S sees a list of party guests, on which Peter’s name has been crossed out.*
(So) this Peter guy isn’t coming to the party?

A sub-requirement of *Polarity Match* is that the evidential or epistemic bias of a PPQ should not just be {-}, i.e. [+NEG]. Positive rejecting questions provide a counter-example here. The PRQ in (6) requires that there be contextual evidence for the negated prejacent of the question, i.e. its evidential bias is [+NEG] even though it is of positive polarity.

- (6) Es wird doch wohl die Sonne scheinen?
it will MP MP the sun shine
“Surely the sun is shining, I assume?”

Constraint	Contradicted by... (G&G)	Additionally contradicted by...
Qualitative Markedness	nothing	NDQs (5)
Polarity Match	nothing	(P)RQs (6)
Narrow Epistemic Choice	Japanese <i>desho</i> -Qs	<i>etwa</i> -Qs (7)
Static Complementarity	ONPQs (inter alia)	DQs, <i>etwa</i> -Qs

Table 2.3: Constraints from Gärtner and Gyuris (2016) with respective exceptions

Gärtner and Gyuris (2016) propose that *Polarity Match* might only constrain evidential biases, but not epistemic biases – i.e. $-^{evid} \notin \text{PPQ}$ and $+^{evid} \notin \text{NPQ}$. This, too, is contradicted by rejecting questions in general: positive RQs require evidence for the negated prejacent of the question, while negative RQs require evidence for the unnegated prejacent of the question.

Turning to the next constraint, (7) is a polar question of positive polarity, and yet its evidential bias is [+POS] and its epistemic bias is [+NEG]. This combination is ruled out by *Narrow Epistemic Choice*. Gärtner and Gyuris (2016) note that particles can change a question’s bias profile, meaning and use, possibly to the point of ‘infringing’ on other speech acts like miratives and exclamatives. (7) seems to be a clear case of exactly this happening, with *etwa* ‘narrowing’ its host PPQ’s epistemic bias from [NONE] to [+NEG].

- (7) Regnet es etwa?
 rains it ETWA
 “Is it raining (to my surprise)?”

Finally, *Static Complementarity* is violated by most question types under discussion here. Positive DQs have a [+POS] evidential bias, and positive *etwa*-questions have a [+NEG] epistemic bias. Both configurations are ruled out by *Static Complementarity*. Rejecting questions, on the other hand, do not run afoul of this constraint (but they do violate *Polarity Match* as noted above).

Table 2.3 summarizes which of the constraints proposed by Gärtner and Gyuris (2016) are contradicted by which of the question types under discussion in this thesis. In order to check the validity of the constraints, it seems advisable to group violating question types according to their characteristics – for example, all of the violators in Table 2.3 either contain particles, have a marked (declarative) syntax, and/or contain non-propositional negation. On the other hand, once all the exceptions have been accounted for, it seems that what is left for the constraints to apply to is the singular unmarked question type within a given language.

2.1.2 Problems with diagnosing question bias

A question's evidential bias is fairly easy to check by judging whether a question is felicitous in a given context. The epistemic bias of a particular question type, on the other hand, can be harder to grasp. Previous assumptions of the speaker (i.e. epistemic bias in the narrow sense) can overlap with the speaker's expectation of a particular answer and with world knowledge. In this section, I will show that these factors can and must be kept apart when constructing question contexts.

2.1.2.1 List contexts

It has been observed, going back at least to Romero and Han (2004), that the epistemic bias of a question can have one value in a list context and another value in a non-list context. Specifically, Romero & Han observe that a German INPQ like *Gibt es hier kein vegetarisches Restaurant?* ("Is there no vegetarian restaurant around here?") can be uttered by an unbiased, neutral speaker if it is asked in the context of preparing a list of vegetarian-unfriendly neighborhoods, i.e. if the speaker is interested in the absence of vegetarian restaurants.

Similarly, Trinh (2014) concedes that an INPQ like "(What about John?) Does he not smoke?" can be felicitously asked in the absence of any contextual evidence (violating his Neutral Question constraint) if it is uttered in the context of compiling a list of party guests who do not smoke. The following examples illustrate that this is true for declarative questions as well.

- (8) Context: *The speaker sees a list of party guests, which has Peter's name on it.*
Peter did not cancel (after all)?

The question in (8) unambiguously has a [+POS] epistemic bias, to the point of being somewhat incoherent without the marking of "after all" (cf. German "Peter hat DOCH nicht abgesagt?"). This contrasts with a context containing a list on which the relevant entry has been crossed out, which allows for the possibility of neutral bias:

- (9) Context: *The speaker sees a list of party guests, on which Peter's name is crossed out.*
Peter is not coming to the party?

The reason for this difference is exactly the same as the reason for the difference between PDQs and some NDQs presented in section 2.1.3.2: lists can provide discourse antecedents for negated questions, which allows for the possibility that the speaker was originally un-

biased with respect to the questioned proposition. The list with a crossed out entry in (9) explicitly provides a negated proposition (namely that Peter is not among the party guests), which even an unopinionated speaker can then double-check using a negated declarative question. Conversely, the list in (8) does not provide any antecedents for a negative declarative question about Peter's party attendance – which again only leaves the possibility that “Peter canceled” must have been among the speaker's beliefs.

The question arises whether the epistemic bias of a question, being as context-dependent as it is, is a part of the semantics of the question at all, and if so, which of the various values that the epistemic bias of one question type can take is more primary. Concretely, do NDQs have [-NEG] epistemic bias, and the context can rule out the neutral possibility, resulting in ‘derived’ NDQs with [+POS] epistemic bias? Or is the regular epistemic bias of NDQs [+POS] and the context can rule *in* the neutral possibility, so that it is [-NEG] NDQs that are derived?

In the case of world knowledge privileging one of the answer possibilities and thereby resulting in PDQs with ‘narrow’ plus-biases (cf. section 2.1.3.1), it is arguably the ‘wide’ minus-bias that is more primary. On this basis, it seems reasonable to assume that NDQs also come with minus-biases by default, which can then be narrowed by the context – even though contexts in which NDQs have minus-biases are more elaborate than those in which they have [+POS] epistemic bias.

2.1.2.2 Various subtypes of epistemic bias

There is another problem with diagnosing epistemic bias, which may be larger than the fact that some question types will have different values for their epistemic bias within different contexts: even within one and the same context, speakers may have more than one ‘type’ of epistemic bias, e.g. a buletic bias may stand in conflict with a truly epistemic bias. This problem showed up as an unintended (and unnoticed) complicating factor in the studies presented in Domaneschi et al. (2017).

Domaneschi et al. (2017) is an experimental investigation of question bias. The authors conducted two production studies investigating whether and to what extent the two types of bias influence the distribution of question types. They manipulated contextual evidence (positive, neutral, negative) and original speaker belief (positive, neutral, negative); and then presented short context descriptions in which the speaker utters a question. The participants chose the question type they thought most appropriate, and then recorded that question. The experiment offered a choice between four question types (and “other”) – positive polar questions, positive polar questions preceded by *really?*, negative polar questions with low negation, and negative polar questions with high negation:

- (10) a. Is there a train in the early morning? (PPQ)
 b. Really?! Is there a train in the early morning? (really-PPQ)
 c. Is there no train in the early morning? (INPQ)
 d. Isn't there a train in the early morning? (ONPQ)

Two experiments were conducted – one in English, one in German. There are several interesting generalizations to be drawn from Domaneschi et al. (2017)'s experimental results:

- If the original bias (i.e. epistemic bias) is neutral, then PPQs and INPQs are the preferred question types (depending on the contextual evidence: if there is evidence for $\neg p$, INPQs are used – PPQs otherwise).
- If the original bias is positive, then ONPQs are preferred. This suggests that there is a pragmatic principle that epistemic bias, if present, *should* be expressed (since a more unmarked PPQ could also have been asked in this context, but would have 'underrepresented' the speaker's bias).
- If the original bias is negative, then *really*-Qs are preferred. These arguably contain VERUM. Note that Domaneschi et al. (2017) only tested this bias in contexts with positive contextual evidence, not in 'neutral' contexts.⁶

Two (really three, see below) context combinations can be ruled out *a priori*: positive/positive and negative/negative, i.e. contexts in which the original speaker belief is the same as the contextual evidence that is received. In these combinations, the default course of action is to (continue to) accept the relevant proposition as true; in a rating study conducted by Roelofsen et al. (2012), any question in one of these combinations received extremely low ratings, because there is no reason for asking a question in these contexts.

A curious result was that even in the neutral/neutral context, quite a few NPQs were produced (about 25% INPQs and 15% ONPQs in the German experiment). This means that a combined 40% of German participants judged one of the two following dialogs as optimal:

- (11) *Context: Tomorrow you need to go from Nottingham to Sheffield very early. Your brother goes there quite frequently and you remember he told you that he doesn't remember if there is a train in the early morning, before 7:00. You go to the station to the ticket office and you ask for a train ticket for the next morning. The operator answers to you: "Do you have any preferences?"*

⁶This was done because the prediction was that a negative/neutral context would feature a complex question type, specifically an ONPQ with high and low negation: "Isn't there no early train?". Domaneschi et al. (2017) wanted to restrict their attention to non-complex question types.

- a. Gibt es keinen Zug so um sechs Uhr?
exists it no train so around six o'clock
“Is there no train around six o'clock?”
- b. Gibt es nicht einen Zug so um sechs Uhr?
is there not a train so around six o'clock
“Isn’t there an early train around six o'clock?”

Two factors that were not mentioned by Domaneschi et al. (2017) are at play here: i) that the ONPQ in (11b) was produced by around 15% of participants means that the context was not epistemically neutral to those 15% of participants – since ONPQs always indicate a speaker bias towards p . Arguably, the problem is that the context makes it clear that the speaker has a vested interest in there being an early train, i.e. in p being true. Even though s/he does not *know* that there is one, s/he suggests that p should not be ruled out hastily (since p being true would be useful). Once again, epistemic bias needs to be clearly defined. The problem is even worse in Romero and Han (2004)’s terminology, since there clearly is an *original* bias in (11). But this original bias is a *buletic* bias, not an epistemic bias.

ii) INPQs are otherwise the preferred question choice in contexts in which $\neg p$ is double-checked (i.e. contexts with neutral original bias and negative contextual evidence), and are a close second (to ONPQs) in contexts in which the speaker insists on p (i.e. contexts with positive original belief and negative contextual evidence). It seems quite likely that the 20% of participants who produced (11a) took the absence of evidence for p within the immediate utterance context as evidence of absence of p . In other words, the participants interpreted the story in (11) as contextually negative – the operator’s question is taken as evidence for $\neg p$. Even if we allow for the possibility that the negation in (11a) is interpreted as high – i.e. that the question is an ONPQ (which still leaves the epistemic problem unsolved) – this cannot explain why around 15% of participants produced a question with low negation even in the English experiment: an English question like *Is there no early train?* is not ambiguous. It double-checks the contextual evidence that indicates $\neg p$.

The underlying issue is the following: Domaneschi et al. (2017) correctly rule out contexts in which the original bias and the contextual evidence agree in polarity, since in those contexts the default course of action is to not ask any question at all. The same should, of course, be true of neutral/neutral contexts: if I have no expectations whatsoever regarding the truth or falsity of a proposition, and I receive no evidence bearing on this issue whatsoever, then it is trivially impossible to ask a question about this proposition. Truly neutral/neutral contexts exist, of course – they probably represent the vast majority of linguistic contexts (in any given context, the speaker is unaware of and agnostic towards myriads of propositions) – but any question is infelicitous there. So Domaneschi et al. (2017) did not test neutral contexts, after all. Since the speaker has a vested interest in p being true, this

primes ONPQs; and since the interlocutor does not provide evidence for p , this can be taken to be evidence for $\neg p$, priming INPQs (this ‘coercion’ of evidence is probably also triggered by the speaker’s interest in p being true).

This problem extends to *all* contexts that have at least one ‘neutral’ value. For example, if we look at the neutral/positive condition (i.e. the speaker’s brother does not remember whether there is an early train, and the operator says “*I suggest you take a train at 6:00*”), the authors were surprised at the high percentage of *really*-Qs produced by participants in both experiments, arguing that *really* in this condition was used as a discourse particle, as opposed to the epistemic adverbial they presume it to be in the negative/positive condition. An alternative explanation could be that they what they actually tested is something close to a mixed/positive context. The epistemic and buletic states of the speaker proceed as follows: buletic bias is always p – the speaker *needs* to take a train before 7 AM; epistemic bias starts truly agnostic, then actually trends negative when the speaker’s brother indicates ignorance about the availability of an early train (from the implicature “if there is an early train, he will know”; “he does not know” \leadsto “there is no early train”). Finally, the operator’s suggestion settles the issue in favor of the speaker’s needs – at this point, we are in something close to a (buletic) positive/positive context, and a cooperative speaker should not ask a question about the availability of a train at 6 AM at all. Since the speaker does ask a question like this, it is implicated that s/he has trouble believing p , which situates the speaker in a (epistemic) negative/positive context, in which *really*-Qs (and PPQs containing VERUM) are overwhelmingly the only options. Again, this means that the brother’s indication of ignorance was taken as evidence for $\neg p$. The different context types simply blend together if the different types of speaker bias (cf. Northrup 2014 on that term) are not kept apart.

2.1.3 Case study: the bias profile of declarative questions

The evidential bias of declarative questions is clear: positive DQs have a [+POS] evidential bias, while negative DQs have a [+NEG] evidential bias. In other words, the evidential bias of DQs is the mirror image of RQs of the same polarity. The epistemic bias of declarative questions is, however, harder to grasp. In particular, I argue that it depends upon the context type. Specifically, we have to keep in mind two factors: whether world knowledge favors one of the two answers to the question, and whether there are negated discourse antecedents available to the interlocutors. Negated discourse antecedents can be provided in list contexts, i.e. in contexts in which the evidence comes in the form of a list with crossed-out entries. Negated discourse antecedents can, however, also be provided by entailments of previous utterances.

The epistemic biases of declarative questions in different types of contexts are shown in

Tables 2.4 through 2.7 on page 31. Here are some examples for each table:

- (12) Table 2.4, row “right, crossed out entry”
 Context: *The speaker sees a list of right-handed people, on which Peter’s name has been crossed out.*
 PDQ: Peter is left-handed?
 NDQ: Peter is not right-handed?
- (13) Table 2.5, row “cancel”
 Context: *The speaker sees a list of people who have canceled their party attendance, on which Peter’s name is found.*
 PDQ: Peter canceled?
 NDQ: Peter is not coming to the party?
- (14) Table 2.6, row “right”
 Context: *The speaker sees Peter write with his right hand.*
 PDQ: Peter is right-handed?
 NDQ: Peter is not left-handed?
- (15) Table 2.7, row “guest”
 Context: *At a party, the speaker overhears someone saying “Peter is going to arrive soon”.*
 PDQ: Peter is coming to the party?
 NDQ: Peter did not cancel?

A number of asymmetries are visible:

1. Contexts in which the questioned predicate is influenced by world knowledge are less neutral than those in which the questioned predicate is not influenced by world knowledge (visible as the [+NEG] cells and the lower [+POS] cells in Tables 2.4 and 2.6).
2. Some NDQs are non-neutral in ways that some PDQs are not (e.g. the [+POS] cell in Table 2.7).
3. List contexts with crossed out entries allow for more neutral questions than list contexts without crossed out entries.

These asymmetries are discussed in the following sections.

2.1 Question bias

list type	question type	epistemic bias
right	PDQ	+NEG
right	NDQ	+POS
left	PDQ	-POS
left	NDQ	+POS
right, crossed out entry	PDQ	-POS
right, crossed out entry	NDQ	-NEG
left, crossed out entry	PDQ	-POS
left, crossed out entry	NDQ	-NEG

Table 2.4: Epistemic biases of DQs in a list context with world knowledge influence

list type	question type	epistemic bias
guest	PDQ	-POS
guest	NDQ	+POS
cancel	PDQ	-POS
cancel	NDQ	-NEG
guest, crossed out entry	PDQ	-POS
guest, crossed out entry	NDQ	-NEG
canceled, crossed out entry	PDQ	-POS
canceled, crossed out entry	NDQ	-NEG

Table 2.5: Epistemic biases of DQs in a list context without world knowledge influence

evidence type	question type	epistemic bias
right	PDQ	+NEG
right	NDQ	+POS
left	PDQ	-POS
left	NDQ	+POS

Table 2.6: Epistemic biases of DQs in a non-list context with world knowledge influence

evidence type	question type	epistemic bias
guest	PDQ	-POS
guest	NDQ	+POS
cancel	PDQ	-POS
cancel	NDQ	-NEG

Table 2.7: Epistemic biases of DQs in a non-list context without world knowledge influence

2.1.3.1 Influence of world knowledge

Most people in the world are right-handed. This fact influences the epistemic bias of questions about someone's handedness, i.e. the type of question that is used by Sudo (2013) to illustrate the evidential and epistemic biases of polar questions and by Trinh (2014) to propose an analysis for the derivation of the evidential bias of polar and declarative questions. Consider first a positive declarative question about someone's handedness:

- (16) Context: *The speaker sees Peter write with his right hand.*
Peter is right-handed?

The speaker cannot have believed Peter to be right-handed – at least without any special marking like an initial “so” combined with VERUM intonation, or a question tag. We could test this by using an enriched scenario: the speaker and the addressee have made a bet about Peter's handedness, with the speaker betting on Peter being right-handed. Both speaker and addressee made the bet in the belief that they were right. If the speaker and addressee now see Peter writing with his right hand, (16) is an odd thing to say without the additional markings.

The speaker cannot have been neutral – a continuation like “I had never really thought about it” is strange because world knowledge makes the accommodation process of adding “Peter is right handed” to the speaker's beliefs so easy that the speaker is expected to just do so without asking a confirmation question.

By asking a question, the speaker reveals that he/she had a stronger assumption, namely that Peter is left-handed. In the enriched scenario, if the speaker bet on Peter being left-handed, (16) is felicitous (although it's not clear to which extent the question must be marked with an incredulous intonation).

This means that a PDQ whose prejacent is likely to be true given world knowledge has [+NEG] epistemic bias. Now compare this to a positive declarative question about a state of affairs in which world knowledge does *not* privilege one of the answers:

- (17) Context: *At a party, the speaker overhears someone saying “Once Peter gets here, this party will be great”.*
Peter is coming to the party?

In this case, it is possible for the speaker to have been neutral regarding the issue of Peter's party attendance. For example, a continuation like “I haven't thought about that guy in years!” is felicitous.

The speaker can also have assumed that Peter would not be coming. A continuation like

“I thought he wanted to stay home” is felicitous. Finally, the speaker cannot have assumed that Peter would be coming to the party. If the speaker made a bet that Peter would in fact be coming, (17) is infelicitous if not explicitly marked as a confirmation question. The result is that a PDQ whose prejacent is not made more or less likely by world knowledge has [-POS] epistemic bias.

In summary, world knowledge can unbalance the answer probabilities which, taken together with pragmatic reasoning about the motives of the speaker of a (declarative) question, can rule out the possibility of an epistemically neutral speaker. This means that contexts in which e.g. someone’s handedness is questioned make for poor diagnostics of epistemic bias.

2.1.3.2 Asymmetry between PDQs and NDQs

Another asymmetry holds between PDQs and some NDQs, even if we factor out the influence of world knowledge: all PDQs have a ‘wide’, [-POS] epistemic bias, while some NDQs have a ‘narrow’, [+POS] epistemic bias and others have the expected [-NEG] bias. Consider the following contrast:

- (18) Context: *At a party, the speaker overhears someone saying “It’s a shame that Peter canceled”.*

Peter is not coming to the party?

This question allows for the possibility that the speaker was previously unbiased or that s/he assumed that Peter would be coming, resulting in a [-NEG] epistemic bias. This stands in stark contrast to the following question:

- (19) Context: *At a party, the speaker overhears someone saying “Peter is going to arrive soon”.*

Peter did not cancel?

The speaker of this question absolutely cannot have been unbiased – the question has a [+POS] epistemic bias. Crucially, (18) and (19) look very similar at first glance: both contexts factor out world knowledge, both pieces of contextual evidence are explicit linguistic material that does not include a negation, and both questions contain a predicate that has not literally been mentioned before.

The reason for this asymmetry is that the contextual evidence in (18) includes an implicit argument that can serve as an antecedent for the NDQ, while the contextual evidence in (19) does not provide a suitable antecedent. This can be represented schematically as follows:

- (20) Peter canceled coming to the party.
→ He was going to come to the party, but now he is not coming to the party.

Here, the underlined, negated proposition is available as an antecedent for the NDQ. It follows from the fact that “canceling party attendance” entails “previously having intended to go”. This contrasts with the contextual evidence in (19), which does not make a negative antecedent available at any point, since “attending a party” does not entail “previously having intended to cancel”:

- (21) Peter is going to arrive soon.
→ He is going to come to the party.
→ He was going to cancel, but he ended up not canceling.

Since no negative antecedent is made available by the context, this leaves only one other source of an antecedent for the NDQ: the previous assumptions of the speaker. The question in (19) necessarily conveys that its speaker had specific assumptions about Peter’s party attendance – namely, that he would cancel, resulting in a [+POS] epistemic bias.

Here, epistemic bias is directly derivable from the type of the contextual evidence, which is the first hint at a possible link between epistemic bias and evidential bias. While DQs of both polarities require that the contextual evidence match the prejacent of the question, contextual evidence can differ in terms of the influence it has on epistemic bias – specifically, it can provide a discourse antecedent for otherwise non-neutral prejacent, allowing for NDQs with minus-biases.

2.1.3.3 Section summary

The preceding discussion has shown that declarative questions do not have a fixed epistemic bias. Instead, their epistemic bias depends on the type of contextual evidence and/or the influence of world knowledge on the questioned proposition. Positive declarative questions can have either [+NEG] or [-POS] epistemic bias, while negative declarative questions can have either [+POS] or [-NEG] epistemic bias.

If a PDQ has [+NEG] epistemic bias, i.e. if its speaker cannot have been unbiased regarding the questioned proposition, this is always the result of world knowledge making it very unlikely that the speaker was truly agnostic. The following example illustrates this.

- (22) Context: *The speaker sees Peter write with his right hand.*
Peter is right-handed?

In contrast, if world knowledge does not strongly prefer one of the possible answers of

a PDQ, it can have [-POS] epistemic bias, i.e. it is possible that the speaker is unbiased regarding the questioned proposition. (23) illustrates this.

- (23) Context: *At a party, the speaker overhears someone saying “Once Peter gets here, this party will be great”.*
 Peter is coming to the party?

Another factor that can influence the epistemic bias of a negative declarative question (but apparently not that of a positive declarative question) is the presence or absence of an implicit argument in the proposition that serves as contextual evidence. For example, if the contextual evidence is of the form “It’s a shame that Peter canceled”, then the implicit argument of “cancel”, namely “coming to the party” can serve as an antecedent for the NDQ “Peter is not coming?”. In contrast to this, if the contextual evidence is of the form “Peter is going to arrive soon”, then there is no implicit argument that could serve as the antecedent of the NDQ “Peter did not cancel?”. The only other discourse antecedent for this question is in the previous beliefs of the speaker.

More generally, if there is a mutually accessible proposition containing negation available in the context, then a negative declarative question can be uttered by a previously neutral speaker. List contexts differ from non-list contexts in that they always provide an explicit discourse antecedent for a DQ. If there is a crossed out entry on the list, this provides a negated proposition, allowing for the possibility of neutral epistemic bias even in cases *with* influence of world knowledge.

In summary, a declarative question’s epistemic bias profile looks as follows, regardless of the question’s polarity: epistemic bias of the same polarity as that of the prejacent (i.e. [+POS] for PDQs and [+NEG] for NDQs) seems to always be ruled out by a general pragmatic principle that people generally do not question propositions of whose truth they are convinced. Epistemic bias of the opposite polarity as that of the prejacent (i.e. [+NEG] for PDQs and [+POS] for NDQs) seems to always be possible. Neutral epistemic bias is possible if there is a discourse antecedent of the correct form (e.g. “It’s a shame that Peter canceled (coming to the party)” → “Peter is not coming?”) and if world knowledge does not rule out the neutral possibility (e.g. the speaker sees Peter write with his right hand → “Peter is right-handed?”).

Whether or not a declarative question can be uttered by an unbiased speaker therefore depends on the type of the contextual evidence available, which I take as an indication that a question’s epistemic bias should not be encoded semantically in the narrow sense, e.g. as a presupposition of a particular question operator.

2.1.4 Speech act implicatures

I propose that the element of surprise, mirativity, incredulity, etc. that is often ascribed to various question types is a secondary effect that is derivable from general pragmatic principles. It is not part of a question's regular meaning. The concrete proposal goes as follows: within a given context, speakers have a variety of speech acts (and non-linguistic actions) available to them. The specific choice that a speaker ends up making allows inferences about the epistemic status of the speaker. I model this inference as an implicature triggered by a competition between speech acts.

For example, in a context with evidence for a positive proposition p , which licenses questions with an evidential bias including the positive possibility (i.e. [+POS], [-NEG] and [NONE]), the speaker has, among others, the following speech acts or actions available to them:

- Quiet acceptance of the proposition. This is indistinguishable from the speaker having already believed the proposition.
- Explicit acceptance of the proposition – e.g. *I see that p*. This can optionally be elaborated on with indicators of previous ignorance, i.e. *I did not know that*.
- Asking a question with a wide epistemic bias. For example, in a context with evidence for p , asking a question with a [-POS] or [NONE] epistemic bias.
- Asking a question with a narrow epistemic bias. For example, in a context with evidence for p , asking a question with a [+NEG] epistemic bias.
- Asking an incredulous wh-question.
- Refusing to accept the evidence.

These options can be ordered on a scale with respect to the willingness of the speaker to accept contextual evidence for p as evidence that p is true, and the willingness to consequently add p as a discourse commitment. Quiet or explicit acceptance constitutes the most willing end of the scale, while outright dismissal of the evidence forms the most unwilling, uncooperative end of the scale. Various subtypes of questions are ordered in between these two extremes.

Questions in general interact with the two extreme ends of the scale in the following ways. Asking any question at all allows the inference that the speaker did not already know that p , because in that case, not saying anything at all would have been the default course of action. Asking any question additionally gives rise to the inference that the speaker is going

to need at least come convincing of the validity of the contextual evidence (or of the validity of the conclusion that the speaker has drawn based on the evidence), because acceptance would also have been an option. When compared to the unwilling end of the scale, the act of asking any question – even the most biased and incredulous question – allows the inference that the speaker is willing (or at least pretends to be willing for the time being) to accept the evidence (or conclusions based on the evidence) as true, because outright refusal to accept it would also have been an option.

The various question subtypes also ‘compete’ for the spot of chosen speech act. In particular, question types with narrow epistemic biases that clash with contextual evidence can trigger implicatures to the effect that the speaker is unwilling to update their discourse commitments. This is because in this utterance situation, the speaker could also have chosen a question type with a wide epistemic bias that does not provide concrete information about the previous assumptions of the speaker, but instead chose a question type that highlights this (now seemingly wrong) previous assumption. This ‘stronger’ indication of previous beliefs allows the inference that the speaker would prefer to keep the specifically highlighted belief. However, this inference is mutable and dependent on context – it is a conversational implicature, not a part of the question’s meaning.

I want to illustrate this last, important point at the outset. Consider the German question containing the modal particle *etwa* in (24). This particle narrows its host PPQ’s biases to [+POS] evidential bias and [+NEG] epistemic bias (possibly performing other functions as well). This is one of two bias configurations that give rise to a surprised or incredulous flavor that could, in theory, be modeled as a statement of speaker preference for keeping the indicated previous belief (in this case *that the sun is not shining*). However, world knowledge makes it very unlikely that the speaker would actually prefer to keep this belief in the case of (24). Instead, all the question does is shine a narrow spotlight on a specific assumption of the speaker. Surprise and incredulity are secondary, pragmatically derived effects of this act of highlighting.

(24) Context: *On a vacation that has been completely rainy so far; the speaker sees that the sun is shining.*

Scheint etwa die Sonne?
shines MP the sun
“Is the sun shining (to my surprise/shock)?”

2.1.4.1 [-POS] vs. [+NEG] epistemic bias

Concrete examples of this competition between speech acts are given in (25), concerning the contrast between questions with a [-POS] epistemic bias – e.g. positive declarative ques-

tions – and questions with a [+NEG] epistemic bias – e.g. intonationally marked incredulity questions or German questions containing *etwa*, i.e. *etwa*-Qs). To make the differences of these two bias types more obvious, let me restate them using Gärtner and Gyuris (2016)’s notation: [-POS] corresponds to {%, -} and [+NEG] to {-}, i.e. the difference between the two is whether or not the corresponding questions could have been uttered by an unbiased speaker.

(25) *Context: the speaker sees Peter’s name on the guest list of a party.*

- a. Peter is coming to the party?
[-POS]^{epist} → does not give rise to implicature that the speaker is unwilling to update his/her discourse commitments
- b. Peter is coming to the party?!
[+NEG]^{epist} → gives rise to implicature that the speaker is unwilling to update his/her discourse commitments
- c. Kommt Peter etwa zur Party?
comes Peter MP to.the party
[+NEG]^{epist} → gives rise to implicature that the speaker is unwilling to update his/her discourse commitments

By choosing to utter (25a) instead of either of the other two questions, the speaker in a way ‘relinquishes’ the claim to the belief *that Peter is not coming to the party*, by presenting him/herself as potentially agnostic regarding this issue. If the speaker wants to present this belief as relevant to the conversation, he/she has to utter (25b) or (25c) – or use any other question type with an epistemic bias that includes *only* this belief.

The implicature triggered by an utterance of (25b) or (25c) is mutable, as already mentioned. Note that for these particular examples, which are questions about a specific individual attending a social event, there is a strong tendency for an additional inference beyond surprise or incredulity: the speaker can usually be assumed to dislike Peter.⁷ An account in terms of an ordering of possible worlds seems tempting at first, but since this inference can be canceled, it seems unwise to provide a semantic account for this element of dislike.

Finally, note that the questions with narrow biases paradoxically imply that the speaker is much closer to accepting the contextual evidence as true, possibly even having accepted it as true already by the time of utterance. This cannot be a consequence of a difference in the evidential bias values – all questions in (25) have a [+POS] evidential bias. I currently do not see a way to account for this intuitive difference between the questions in (25) using

⁷This effect is much stronger for the *etwa*-Q than for the incredulity question, which is very easy to imagine as the utterance of a speaker who loves Peter, and is just surprised at his party attendance. I do not know the source of this difference.

only the cardinality of epistemic biases, but I come back to complications introduced by evidential bias below.

2.1.4.2 [-NEG] vs. [+POS]

The distinction between wide and narrow epistemic biases can help explain incredulity/surprise inferences also for negated questions. (26) is a comparison of a question with a wide [-NEG] epistemic bias – a negative declarative question – to questions with a narrow [+POS] epistemic bias – a negated incredulity question and a negated *etwa*-Q.

(26) *Context: the speaker sees Peter's name on the guest list of a party. The name is crossed out.*

- a. Peter is not coming to the party?
[-NEG]^{epist} → does not give rise to implicature that the speaker is unwilling to update his/her discourse commitments
- b. Peter is not coming to the party?!
[+POS]^{epist} → gives rise to implicature that the speaker is unwilling to update his/her discourse commitments
- c. Kommt Peter etwa nicht zur Party?
comes Peter MP not to.the party
[+POS]^{epist} → gives rise to implicature that the speaker is unwilling to update his/her discourse commitments

The reasoning for why the implicature is or isn't triggered is entirely parallel as that given for (25). However, (26c) seems to have a stronger element of pure surprise (as opposed to indicating speaker preference) than (25c). This is likely a consequence of the inference that the speaker dislikes Peter being blocked somehow.

There is, however, a problem with the account as laid out so far: ONPQs have a [+POS] epistemic bias as well, predicting that they should also give rise to an inference of surprise or reluctance to update discourse commitments. The observed behavior is, however, the complete opposite: ONPQs have a cooperative flavor in the sense that the speaker seems to suggest that the positive prejacent of the question might be true. Under the working hypothesis that secondary effects like surprise or suggestiveness follow straightforwardly from a competition between question types with different epistemic bias values, this suggestive flavor of ONPQs is unexpected. (27) compares negative declarative questions with both types of negative polar questions.

(27) *Context: the speaker sees Peter's name on the guest list of a party. The name is*

crossed out.

- a. Peter is not coming to the party?
[-NEG] → predicted not to allow the surprise/incredulity inference, which is borne out
- b. Isn't Peter coming to the party?
[+POS] → predicted to allow the surprise/incredulity inference, which is *not* borne out
- c. Is Peter not coming to the party?
[+POS]⁸ → predictions depend on whether epistemic bias as given is correct

One explanation for ONPQs' failure to pattern with incredulity questions and *etwa*-Qs might be that ONPQs have a different value for their *evidential* bias: [-POS] instead of [+NEG] like the other two question types.

In particular, it is possible that using a question with a wide evidential bias in a context with contextual evidence for the negated prejacent of the question, like the ONPQ in (27b), can be used to deemphasize a piece of contextual evidence – in the sense that the speaker could not possibly be indicating incredulity about this evidence because he/she is using a question type that could also be used in context with no contextual evidence.⁹

The [+NEG] evidential bias of a negative incredulity question or a negative question containing *etwa*, on the other hand, acknowledges and even highlights the existence of contextual evidence (cf. Trinh 2014's evidential marker E, which may work in this case). This acknowledgment seems to have the effect of blocking any suggestive flavor of the question, presumably because of the direct contrast between the contextual evidence and the previous assumption of the speaker. That this direct contrast is required for surprise/incredulity can be seen by comparing negative DQs, with their [+NEG] evidential bias (narrow – highlights a piece of contextual evidence) and [-NEG] epistemic bias (wide – does not allow inference about specific beliefs of the speaker).

In summary: in order for a question to get an incredulous or surprised flavor, both bias values must be narrow (and opposites of each other). If the evidential bias is wide, this gives rise to the inference that the speaker would like to limit the relevance of the contextual evidence, since s/he would otherwise have chosen a question type with a narrow evidential bias that rather explicitly acknowledges the contextual evidence. This attempted limitation

⁸This is the epistemic bias value of an INPQ according to Sudo (2013) and Gärtner and Gyuris (2016) – I am not convinced this is correct. At least in the list context under consideration here, the speaker could have been agnostic, resulting in a [-NEG] epistemic bias. INPQs in fact do not give rise to a surprise/incredulity inference in my intuition.

⁹This almost certainly makes the wrong predictions – e.g. that questions with evidential biases containing { % } can never have a surprised or incredulous flavor.

of relevance of the contextual evidence blocks any incredulous flavor even if the epistemic bias is narrow. If the epistemic bias is wide, this gives rise to the inference that the speaker has no epistemic preferences one way or the other, since s/he would otherwise have chosen to utter a question that indicates a concrete previous assumption (that contrasts with contextual evidence).

2.1.4.3 [NONE] vs. [-POS]

Theoretically, the cardinality of biases should also be able to play a role in influencing secondary pragmatic effects of questions with no epistemic bias (i.e. [NONE]) – positive polar questions, if Sudo (2013) and Gärtner and Gyuris (2016) are correct – and questions with a [-POS] epistemic bias – positive declarative questions, again. Specifically, PPQs include {+}, while PDQs exclude it. The competition between these two question types should thus give rise to an implicature.¹⁰ In my intuition, this prediction is not borne out:

- (28) a. Is Peter coming to the party?
 [NONE] → should allow no conclusions about previous assumptions of the speaker
 b. Peter is coming to the party?
 [-POS] → ought to have a more negative flavor, but does not (in my intuition)
 – again suggestive that PPQs actually have [-POS] epistemic bias as well

I consider it likely that questions that genuinely do not have an epistemic bias can also be ruled out on the basis of the notion of a competition between speech acts. If a speaker believes *p* to be true, and then receives evidence for *p*, he/she would generally not ask a question *?p*, but instead either say nothing or comment or elaborate on *p*. Genuinely opening the question of *?p* in a context supporting *p* can only be done by non-believers of *p*.

2.1.4.4 [NONE] vs. [-NEG]

This particular contrast is not checkable: NDQs and PPQs require different licensing contexts (their evidential biases do not overlap). As a consequence, they never compete within any given context.

¹⁰I find it hard to accurately describe the expected implicature – but the important difference is that PDQs should never allow the inference that the speaker believed the prejacent of the question to be true, while PPQs may allow this inference.

2.2 Rejecting questions – theoretical issues

This section discusses some of the properties of Swedish and German rejecting questions, in particular fronted negation in the case of Swedish and modal particles for both languages. After a discussion of the (limited) pragmatic functions that RQs have, which lends further support empirical support to their very narrow bias profile, I give an overview of the issue of polarity in German RQs.

2.2.1 On fronted negation in Swedish rejections and rejecting questions

This section is an overview of fronted negation in Swedish, which characterizes some Swedish rejecting questions. The bias profiles of rejecting questions are repeated here for convenience.

	evidential bias	epistemic bias
positive RQ	+NEG	+POS
negative RQ	+POS	+NEG

Table 2.8: Bias profiles of rejecting questions

A subset of Swedish rejecting questions are characterized by a fronting of negation to the sentence-initial, immediately pre-verbal position. Similarly, only a subset of Swedish declaratives containing fronted negation are rejecting questions.

In the following, I will discuss the previous analyses of Swedish fronted negation. Note that what I term rejecting questions here has usually been excluded from these analyses, which dealt primarily with non-questioning usages of fronted negation.

2.2.1.1 Lindström (2007)

An influential distinction of subtypes of fronted negation, taken up by Østbø Munch (2013) and Brandtler and Håkansson (2012, 2014) is made by Lindström (2007): he distinguishes additive negation, responsive negation, and interrogative negation. Interrogative negation is treated as a potential subtype of responsive negation by Lindström (2007) and Østbø Munch (2013), but this issue has not been settled decisively.

The subtypes differ both in their function and in their distribution within the dialects of Swedish (and the Scandinavian languages in general). Additive negation has the widest distribution – it freely occurs both in Swedish as spoken in Sweden (henceforth *rikssvenska*) and in Finland Swedish, as well as in both standard varieties of Norwegian (Østbø Munch 2013). Responsive negation, on the other hand, is more marked and less common in

2.2 Rejecting questions – theoretical issues

rikssvenska than it is in Finland Swedish. Furthermore, it is ungrammatical in both varieties of Norwegian.¹¹

Additive negation is used to compare and/or contrast multiple negated propositions that are explicitly listed. The negative marker is stressed (Brandtler and Håkansson 2012).

- (29) Jag har inte tvättat, och inte har jag städat (heller).
I have not washed and not have I cleaned (either)
“I have not done the washing, and neither have I done the cleaning.”

Responsive negation is used to react to previously asserted or implied propositions. Usually, it is a reaction to an utterance by another speaker, but it can also be used rhetorically. The negative marker is unstressed in responsive negation. Lindström says that responsive negation is characterized by a “epistemic quality assurance by which the speaker signals that he or she has more knowledge about the subject matter than the interlocutor – and *perhaps* wants to correct the interlocutor” (Lindström 2007: p. 40, my emphasis). Lindström’s use of *perhaps* suggests that he considers the use of responsive negation in rejections as just one usage possibility, with the epistemic quality assurance being the actual central meaning of this type of fronted negation.

In (30), speaker B targets a presupposition of speaker A’s utterance and rejects it. In (31), the speaker postulates a consequence of a (not mentioned) factor, i.e. that everyone will go to university, and then uses fronted negation in providing a reason for why this consequence is unwanted.

- (30) Context: *At a meeting.*
- A: Vi måste vänta på Peter innan vi börjar.
we must wait for Peter before we begin
“We must wait for Peter before we begin.”
- B: (Men) inte kommer han till mötet.
but not comes he to the.meeting
“But he’s not coming to the meeting.”

¹¹It can also be shown that, to the limited degree that fronted negation exists or existed in German and Dutch, it is always functionally additive. A German example is given in (i):

- (i) ich [...] verschonte die Bonner Politik auch dort mit offenem Widerspruch, wo deutlichere Kritik angezeigt gewesen wäre. **Nicht** verschonte ich sie allerdings mit einer Initiative, die – so bescheiden sie war – die Mauer einen Spalt öffnete und in die richtige Richtung wies
“I spared Bonn open disagreement even in those places where more open criticism would have been appropriated. I did not, however, spare them an initiative that – as humble as it was – opened the Wall a crack and pointed in the right direction.”
(Willy Brandt, *Erinnerungen*, p. 70)

2.2 Rejecting questions – theoretical issues

- (31) men då ska alla bli student, int e de ju rimlit att åtti procent
but then shall all become student not is it MP reasonable that eighty percent
eller nitti procent av befolkningen blir studenter
or ninety percent of the.population become students
“But then everyone would become a student. It surely is not reasonable that 80 or
90 percent of the population become students.”
(adapted from example 23 in Lindström 2007)

Interrogative negation is, essentially, when fronted negation occurs in questions, such as (32). Some of these questions are also reactions to previous discourse moves (i.e. these questions cannot be used to initiate a dialog), while others can, in fact, be used as initial discourse moves.

- (32) Inte regnar det?
not rains it
Lindström’s translation: “(To be sure) isn’t it raining?”

Lindström translates a Swedish NPQ with low negation as an English ONPQ, and says that (transformed here to Sudo’s terminology) this NPQ has a [+POS] epistemic bias, and is compatible with contextual evidence that it is not raining. Conversely, he says about the question in (32) that the speaker realizes that it might rain (roughly corresponding to [+POS] evidential bias) but would prefer for it not to rain, and formally requests a negative answer – which does not neatly translate to any particular epistemic bias. It seems quite clear, however, that Lindström is describing a rejecting question here, and not e.g. a negative declarative question, as negative declarative questions have a [+NEG] evidential bias.

An example for a discourse-initial question with fronted negation is given in (33). This question is not a rejecting question, but a polite offer. Related to this question type are genuine questions that mark the affirmative answer as unlikely for reasons of politeness, cf. (34).

- (33) Inte vill du ha en kopp kaffe?
not want you have a cup coffee
“Would you like a cup of coffee, by any chance?”
- (34) Inte har du en vinöppnare att låna ut?
not have you a wine.opener to loan out
“I don’t suppose you could lend me a wine opener?”
(example (15) from Lindström 2007)

The difference between these polite questions, if they are treated as genuine questions instead of indirect requests, and negative rejecting questions is that (33) and (34) have a [-POS]

evidential bias, i.e. the only contextual requirement is, e.g. for the addressee not to have previously stated that they would like coffee. Much like responsive negation, interrogative negation thus contains (at least) two quite distinct subtypes.

2.2.1.2 Petersson (2008)

Petersson (2008) investigates the shades of meaning that Swedish negation has in its base position and in its fronted position, and the differences between the two. Petersson (2008) also investigates the change of meaning that the modal particles *visst* and *nog* undergo if they move to SpecCP. I will come back to this issue in section 2.2.2.1. For the functions of negation in its base position, Petersson enumerates sentential negation and constituent negation. For fronted negation, Petersson distinguishes four different sub-classes of meaning/function (which do not always neatly line up with Lindström's three-way classification of fronted negation). Petersson calls these categories *Inte A* through *Inte D*.

The category *Inte A* corresponds to rejections. The speaker uses this type of fronted negation to indicate that “he or she thinks that a state of affair that is current in the context or an immediately preceding utterance is false or implausible” (Petersson 2008: p. 140, my translation). This corresponds to (one subtype) of Lindström's responsive negation. Interestingly, Petersson notes that this type of fronted negation can be paraphrased using a combination of low negation and the modal particle *väl*. This is noteworthy because *väl* arguably always turns utterances into (at least indirect) question speech acts, meaning that Petersson paraphrases a rejection with a rejecting question.

Another use of *Inte A* is to indicate that the speaker considers that the negated proposition that hosts this type of fronted negation is self-evidently true. This type of fronted negation can, according to Petersson, be paraphrased by a combination of low negation and the modal particle *ju*, which also indicates that the speaker considers its host proposition to be self-evidently true and/or previously known to the addressee.

About *Inte B*, Petersson only says that it enables the speaker to “strengthen the speech act he or she performs” (Petersson 2008: p. 142, my translation). He notes that this type of fronted negation is often stressed, suggesting that it overlaps with Lindström's additive negation, which is always stressed. The example that Petersson gives also includes *heller* (*either*). This identification of *Inte B* with additive negation is complicated by the fact that Petersson calls this type of modality introduced by *Inte B* “strengthening modality”, and then goes on to note that *inte*, *nog* and *visst* are all of this type of modality if they are followed by *fan* (“damn”). The examples that he gives for this are, however, all rejections, i.e. instances of his *Inte A*.

Inte C is used by the speaker to “appeal for the addressee's confirmation of the proposi-

tion’s truth, which gives the sentence the character of a question” (Petersson 2008: p. 142, my translation). He clarifies that the proposition which the speaker asks for support for is the negated proposition. The example that he gives is quite clearly a rejecting question as defined here. The correspondence to Lindström’s interrogative negation is, again, more complex, however. Interrogative negation also includes fronted negation that occurs in questions other than rejecting questions, i.e. polite requests and questions in which the speaker would prefer an affirmative answer.

Finally, *Inte D* is used in (contrastive) concessions, in which the speaker concedes that a negated proposition is true, and then contradicts it partially. An example for this type of fronted negation is given in (35).

- (35) *Inte ska man klaga, men jag hållar på att flyta bort i denna värmen.*
 not shall one complain but I hold on to flow away in this the.heat
 “I know you’re not supposed to complain, but I’m about to melt in this heat.”

Petersson points out that these instances of *Inte D* can usually be paraphrased with no notable change of meaning by a combination of low negation and the adverb *visserligen* (*surely*). I want to point out that another paraphrase is by way of a combination of low negation and the modal particle *ju*, i.e. the same paraphrase as that used in (one subtype of) *Inte A*. Since the conceded proposition is presented as self-evidently true, this is not surprising. *Inte D* is probably just one special usage of *Inte A*, in which a proposition is rejected that has not been asserted by anyone in the immediately preceding context (e.g. “people are supposed to complain” in (35)). Since this, on its own, would not be a coherent speech act, this rejection gives rise to the expectation of a *but*.

If we treat *Inte D* as a subtype of *Inte A*, then we can identify *Inte A* with Lindström’s responsive negation, *Inte C* with Lindström’s interrogative negation, and (less clearly) *Inte B* with Lindström’s additive negation. In summary, there is good evidence for a classification of fronted negation into (at least) three different functional subcategories.

2.2.1.3 Zeijlstra (2010)

Zeijlstra (2010) argues that it is generally impossible for the negative operator to take scope from SpecCP. According to him, this is due to the fact that the illocutionary operator that encodes a sentence’s speech act must not be in the scope of negation, but is located in C^0 . As a consequence, the negative operator must either be lower than C^0 or, if superficially located in SpecCP, be able to reconstruct to a position that is lower than C^0 . Zeijlstra argues that the bare negative marker (unlike negative phrases like e.g. *nobody*) can never reconstruct to a lower position, because it is always directly merged in its surface position in accordance

with the Merge-Over-Move constraint proposed in Chomsky (1995). As a result, the bare negative marker always takes scope from its surface position. If it is seemingly located in SpecCP, there must be an alternative explanation.

Zeijlstra then provides apparent Dutch counter-examples from Barbiers (2002) and Haeseryn (1997), repeated here as (36) and (37). Barbiers (2002) claims that negation may only be fronted if the verb selects a CP complement like in (36). Zeijlstra points out that in some cases, negation may front even if the verb selects a DP complement like in (37).

- (36) Ik had wel gezien dat Jan aankwam, maar **niet** had ik gezien dat Eddy vertrok.
I had MP seen that Jan arrived but not had I seen that Eddy left
“I did see that Jan arrived, but I didn’t see that Eddy left.”

(example (57) from Zeijlstra 2010)

- (37) **Niet** moeten in de lijst worden aangekruist de planten die je al hébt.
Not must in the list be crossed the plants that you already have.
“You must not mark the plants on the list that you already have”

(example (60) from Zeijlstra 2010)

These examples are analyzed as instances of constituent negation by Zeijlstra, with the negative constituents being *niet dat Eddy vertrok* (“not that Eddy left”) and *niet de planten die je al hébt* (“not the plants that you already have”), respectively. Under this analysis, the fronting of the negative marker in (37) and (36) is actually partial topicalization, which means that the negative marker can, in fact, reconstruct to its lower base position at LF.

The same analysis is proposed to account for the following Swedish data:

- (38) A: **Inte** kom SVEN, utan BERTIL, till festen igår.
Not came Sven but Bertil to the party yesterday
“Not Sven, but Bertil, came to the party yesterday.”
B: Ja, det gjorde han, och Arne också / *heller.
Yes that did he and Arne too / either
“Yes, he did, and Arne, too.”

(example (70) from Zeijlstra 2010, adapted from Brandtler 2006)

Zeijlstra takes the fact that only the PPI *också* (“too”) can grammatically occur in (38), but not the NPI *heller* (“either”), to mean that the negative marker here takes scope only over *Sven*, not the whole sentence – i.e. this is another instance of constituent negation and partial topicalization according to Zeijlstra’s analysis.

The problem with Zeijlstra’s analysis concerning (36) is that in the proposed reconstructed constituent *niet dat Eddy vertrok*, the embedded C^0 is again in the scope of negation. A possible solution to this would be to say that negative scope ‘stops’ at phase boundaries.

2.2 Rejecting questions – theoretical issues

The problem with Zeijlstra’s analysis of (38) is that the type of negation in A’s utterance – i.e. sentential negation vs. constituent negation – does not influence the choice of *too* vs. *either* in B’s utterance at all. B makes two positive assertions – confirming that Bertil came to the party, and adding that Arne, too, came to the party. It is entirely expected that only *too* can occur in the second assertion, even if A’s utterance contained sentential negation.

A more accurate test regarding polarity items and fronted negation is given in (39).

- (39) A: Du har inte städat ännu.
 you have not cleaned yet
 “You haven’t done the cleaning yet.”
 B: Och inte kommer jag göra det heller / *också!
 and not will I do it either / too
 “And I’m not going to, either!”

The actual fact of the matter is that Swedish fronted negation can occur both with *också* and *heller*, depending on the type of fronted negation: additive negation co-occurs with *heller*, like in (39), while responsive (and interrogative) negation co-occurs with *också*, cf. (40).

- (40) Context: *At a meeting.*
 A: Vi måste vänta på Peter innan vi börjar.
 we must wait for Peter before we begin
 “We must wait for Peter before we begin.”
 B: Inte kommer han till mötet också / *heller?
 not comes he to the.meeting too / either
 “Surely he’s not coming to the meeting, too?”

Seeliger (2012) provides additional counter-examples to Zeijlstra’s analysis, namely sentences with fronted negation that contain no constituent that could be negated – the negation must instead be sentential negation. For example, in (41), the subject is an expletive that cannot be contrastively focused, while contrastive focus on the verb only produces the wrong reading *it is possible not to sleep but to do something else*.

- (41) Denna vecka blåser det och regnar på natten och inte går det att sova.
 this week blows it and rains in the.night och not goes it to sleep
 “This week, the wind blows and it rains at night and it is not possible to sleep.”

In summary, Zeijlstra’s analysis of Swedish fronted negation as constituent negation that obligatorily takes narrow scope and is able to reconstruct into its base position at LF fails to account for the entirety of Swedish data. Fronted negation with sentential scope exists, and there is one subtype of fronted negation that is able to license NPIs.

2.2.1.4 Brandtler & Håkansson (2012), (2014)

Brandtler and Håkansson (2012) point out similar problems with Zeijlstra (2010)’s account as those raised in Seeliger (2012), namely that fronted negation is, in fact, compatible with the NPI *heller* (“either”), and furthermore that sentences containing fronted negation pattern with negated sentences with respect to answer particles. In Swedish, positive sentences (and sentences containing clear cases of constituent negation) are accepted with *ja* (“yes”) and rejected with *nej* (“no”), while sentences containing sentential negation are accepted with *nej* and rejected with *jo* (comparable to German *doch* and French *si*). Crucially, sentences containing fronted negation must be rejected with *jo*, meaning that Zeijlstra’s analysis of fronted negation as constituent negation cannot be correct.

Brandtler and Håkansson propose an alternative analysis that is based on the C-constraint, a constraint on the left periphery whose function it is to create cohesion, proposed by Molnár (2003). This constraint regulates what ends up in SpecCP. On the syntactic side, this is a C-feature that can have a positive or a negative value. If positive, it can be valued as either C-continuity or C-contrast (contrast still with respect to sets or scales of similar things). Positive values of the C-feature can vary across languages: e.g. the Swedish left periphery mainly deals with C-continuity, while the Finnish left periphery mainly deals with C-contrast.

A language whose C-feature is valued for C-continuity will have many subject topics and framing adverbials in the left periphery. Anything else is marked. For example, in Swedish, A’-movement of an object to the left periphery can be as infelicitous as fronting of negation, if this movement is not sufficiently motivated. One potential motivation is focus: if objects are contrastively focused, they can occur initially. Brandtler and Håkansson’s reason that if object fronting must be licensed by contrast, it is reasonable to assume that fronting of negation is also licensed by contrast. Their central claim: additive negation is closer to contrast, while responsive (and interrogative) negation is closer to focus.

Brandtler and Håkansson point out that the two propositions that additive negation can be used to contrast must be related to each other on a scale: “[...] the proposition embedded under negation must informationally connect to the preceding clause. If there is no such connection, additive negation is ruled out” (Brandtler and Håkansson 2012: p. 88). They demonstrate this with the contrast in (42).

- (42) a. Han är inte snygg, och inte är han särskilt trevlig (heller).
 he is not handsome and not is han particularly nice either
 “He is not handsome, and neither is he particularly nice.”
 b. ??Han är inte snygg, och inte har han en syster (heller).
 he is not handsome and not has he a sister either

“He is not handsome, and neither does he have a sister.”

(adapted from example (31) in Brandtler and Håkansson 2012)

The main function of responsive negation according to Brandtler and Håkansson (2012) is the highlighting of a speaker-oriented judgment of a state of affairs as “surprising, unwanted, unfitting etc.” (Brandtler and Håkansson 2012: p. 88). They diagnose this using clefts, claiming that clefts are associated with non-contrastive focus. This means that responsive negation should be more easily paraphrased by clefts than additive negation. They offer the following contrast:

(43) Additive negation

- a. Inte hade man råd med lägenhet.
not had one the.ability.to.afford with apartment
“One was not able to afford an apartment.”
- b. Det var inte lägenhet som man hade råd med.
it was not apartment that one had the.ability.to.afford with
“It wasn’t an apartment that one was able to afford.”
(43a) ≠ (43b))

(44) Responsive negation

- a. Inte har Lindgren skrivit det där!
not has Lindgren written this there
“Lindgren didn’t write that!”
- b. Det var inte Lindgren som har skrivit det där.
it was not Lindgren that has written this there
“It wasn’t Lindgren who wrote that.”
(44a) = (44b))

Any constituent in SpecCP with a negative C-feature is pragmatically marked. Responsive negation is (apparently) not contrastive enough for a positive C-feature, so it is more marked than additive negation (which does have a positive C-feature).

The problem with Brandtler and Håkansson’s cleft paraphrase prediction is that it undergenerates: not all instances of responsive negation can, in fact, be paraphrased by cleft sentences. An example for this is given in (45) and (46).

(45) Context: *At a meeting.*

- A: Vi måste vänta på Peter innan vi börjar.
we must wait for Peter before we begin
“We must wait for Peter before we begin.”

- B: (Men) inte kommer han till mötet.
 but not comes he to the.meeting
 “But he’s not coming to the meeting.”

This cannot be paraphrased by any cleft sentences:

- (46) a. Det är inte HAN som kommer till mötet.
 it is not he that comes to the.meeting
 “It is not HIM that is coming to the meeting.” (≠ (45)-B)
- b. Det är inte till MÖTET som han kommer.
 it is not to the.meeting that he comes
 “It is not the MEETING that he’s coming.” (≠ (45)-B)

Brandtler and Håkansson (2014) take an approach to Swedish fronted negation that seems slightly different to that of Brandtler and Håkansson (2012) at first sight, but results in similar predictions. The central claim is that both types of fronted negation differ from regular negation in terms of their context requirements: regular negation only requires that the “denied affirmative proposition” is already in the CG. Responsive negation additionally requires that this proposition be salient in the immediate context. For this reason, this proposition cannot contain information focus. If anything is focused in the scope of responsive negation, then this focus must be contrastive focus. The prediction is made that in all cases of responsive negation, there is a contrastively focused phrase that could move to SpecCP instead of the negation. These contrastively focused phrases and responsive negation both carry positive C-features.

Responsive negation associates only with the contrastively focused constituent (by matching of the positive C-features). This gives rise to the presupposition that the part of the proposition that is outside the scope of negation is true, which is why responsive negation is easily paraphrased by negated clefts (since clefts also come with the presupposition that the non-clef part of the proposition is true.) That not all instances of responsive negation have cleft counterparts has already been shown with examples (45) and (46). The idea that responsive negation obligatorily associates with a contrastively focused constituent in the rest of the sentence is new to Brandtler and Håkansson (2014) (relative to Brandtler and Håkansson 2012). In my view, this idea is functionally identical to Zeijlstra’s analysis of fronted negation as constituent negation, which Brandtler and Håkansson rejected themselves.

Additive negation, according to Brandtler and Håkansson is more explicit about the contrasted propositions than responsive negation is. The contrasted propositions must be from a contextually salient set, in which “properties [...] are ordered relatively to each other on a scale” (Brandtler and Håkansson 2014: p. 119). Brandtler and Håkansson claim that additive negation, too, can optionally stay low, while the contrastively focused element moves

to SpecCP.

To account for the distribution of fronted negation in Swedish (responsive negation is rare in *rikssvenska* but common in Finland Swedish and Northern Swedish), Brandtler and Håkansson (2014) claim that the negative marker *inte* has been reanalyzed as a head in the varieties of Swedish spoken in Northern Sweden and in Finland. They argue that this reanalysis is responsible for the weaker (or possibly non-existent) restrictions on fronting of negation in these varieties. Their argument is that negation, if it is a head, cannot move to SpecCP – so if it is in the pre-verbal position, it is actually cliticized to the finite verb. Since C^0 does not have any pragmatic restrictions as to its contents (unlike SpecCP, under the analysis of Molnár 2003), negation can be fronted more freely than in the varieties of Swedish in which it moves to SpecCP.

2.2.1.5 Østbø Munch (2013)

Østbø Munch (2013) argues that the process of fronting of the negative marker allows reconstruction of negation back into the clause. This solves the problem of scope relations between fronted negation and illocutionary operators, as pointed out by Zeijlstra (2010).

Østbø Munch points out an interesting syntactic difference within the subclass of additive negation. In Norwegian and Swedish, it is possible to have the unstressed particle *så* in the position immediately preceding the verb and following a phrase. Only non-arguments can be followed by *så*, and these non-arguments must be topics or other scene-setting elements (Østbø Munch 2013: p. 240). (47) gives an example, contrasting an adjunct PP and an argument PP.

- (47) a. Nere i källaren (så) gick jag.
 down in the.basement so went I
 “Down in the basement, I walked (around).”
 b. Ner i källaren (*så) gick jag.
 down in the.basement so went I
 “Down into the basement, I went.”
 (example adapted from example (43), p. 240 from Østbø Munch 2013)

While negation is never an argument, predicting that fronted negation should always be able to be followed by *så*, there is an asymmetry between bare fronted negation, which is incompatible with *så*, and the complex phrase *inte heller* (“not either”, i.e. “neither”), which is compatible with *så*:

- (48) a. *Inte så kommer han.
 not so comes he

“He does not come.”

- b. Inte heller så har jag påstått att din son smygröker.
not either so have I claimed that your son secretly.smokes
“Neither did I claim that your son smokes in secret.”

(Example (44) from Østbø Munch 2013)

While this is suggestive of a difference between additive negation (compatible with *så*) and responsive negation (incompatible with *så*), the facts are different – only the complex phrase *inte heller* can be followed by *så*, while the bare negative marker *inte* can never be followed by *så*, even if it is additive negation:

- (49) a. Jag har inte tvättad, och inte heller (så) har jag städat.
I have not washed and not either so have I cleaned.
b. Jag har inte tvättad, och inte (*så) har jag städat.
I have not washed and not either so have I cleaned.
“I have not done the washing and neither have I done the cleaning.”

(Adapted from example (45) from Østbø Munch 2013)

Østbø Munch says that these data are compatible with an analysis in which the complex phrase *inte heller* occupies the specifier of TopP. Bare fronted negation, on the other hand, occupies a different position according to her – for example the specifier of a polarity phrase PolP. ForceP and PolP are fused, with the verb moving to Pol⁰, and the negative marker moving to the fused head’s specifier. Additive negation then either occurs in the same position as responsive negation, or in a lower (but still high) position, e.g. the specifier of ForceP (Østbø Munch 2013: p. 241). This makes the prediction that the complex phrase *inte heller* and its discontinuous counterpart *inte ... heller* occupy different positions within the left periphery.

2.2.2 On modal particles in rejecting questions and *etwa*-questions

2.2.2.1 Swedish

The modal particles that are relevant for Swedish RQs are *väl*, *visst*, and *nog*. I will discuss them in turn.

As pointed out by Petersson (2008), Swedish fronted negation can be paraphrased by a combination of low negation and modal particles – in the case of negative rejecting questions, this modal particle is *väl*.¹² Whether or not sentences like (50) also have a reading

¹²It is possible that even low negation without the support of any modal particles can yield a rejecting question reading. I will come back to this issue in the discussion of the rating study described in section 3.1.

2.2 Rejecting questions – theoretical issues

like “I suppose Peter is not coming to the meeting?”, in contexts in which there is evidence for $\neg p$, is investigated in Experiment IIIa (cf. section 3.3).

- (50) Peter kommer väl inte till mötet?
Peter comes MP not to the.meeting
“Surely Peter is not coming to the meeting?”

Interestingly, Brandtler and Håkansson (2012) give (51b) as a paraphrase for (51a), which functions as a polite question with [-POS] evidential and neutral epistemic bias, suggesting that *väl* does not automatically give rise to a RQ reading when combined with negation. In other words, it is possible that both (51a) and (51b) are ambiguous between a reading as a rejecting question and a reading as a polite question.

- (51) a. Inte har du sett Hedlund?
not have you seen Hedlund
“You haven’t seen Hedlund by any chance?”
b. Du har väl inte sett Hedlund?
you have MP not seen Hedlund
No separate translation given in Brandtler and Håkansson (2012)

Polite questions are beyond the scope of this dissertation.

The modal particles *visst* and *nog* can be used to mark positive rejecting questions, but only if they are fronted like in (52). In their base positions, they mark their host proposition as hearsay (in the case of *visst*) or as an estimate of the speaker (in the case of *nog*).

- (52) a. Visst kommer Peter till festen?
MP comes Peter to the.party
b. Nog kommer Peter till festen?
MP comes Peter to the.party
Both: “Surely Peter is coming to the party?”

Fronted *visst* and *nog* can also be used to insist on the truth of a positive proposition – in other words, to reject a previously asserted or implied negative proposition.

- (53) A: Vad synd att Peter inte kommer till festen.
how sad that Peter not comes to the.party
“What a pity that Peter isn’t coming to the party.”
B: Visst kommer han till festen.
MP comes he to the.party
“He IS coming to the party.”

This means that these two modal particles on the one hand and negation on the other hand

have very similar functions if they are fronted, just with opposite polarities.

2.2.2.2 German

The modal particles that are relevant for German RQs are *doch* and *wohl*. Optionally, RQs can also contain *etwa*, which obviously also occurs in *etwa*-Qs. I will discuss previous analyses of these particles in turn.

The modal particle *doch* occurs in declaratives, imperatives, optatives, wh-exclamatives and certain wh-questions, according to Thurmair (1989: p. 111). For its use in declaratives, she proposes that it shares with *ja* a [BEKANNT]_H feature (i.e. its host proposition is known to the hearer). The difference between the two is that *ja* is more assertive in its reference to the CG content, while *doch* is rather exhortative towards the addressee, specifically: it exhorts the addressee to consider this CG content.¹³ Usually, this exhortation follows an act by the addressee that suggests that s/he is *not* considering this CG content – this is the contrast-indicating meaning component of *doch*. Thurmair accounts for this by also assigning it a [KORREKTUR] feature (“correction”). All other pragmatic effects (reproachful flavor, reminding flavor, etc.) are derived from these two features. In questions, the CG component changes to [BEKANNT]_S (i.e. its host proposition is known to *the speaker*).

Turning to *wohl*, Thurmair (1989) assigns the feature [EINSCHRÄNKUNG] (“restriction”) to it in all its uses. If this restriction concerns the truth of the proposition, *wohl* is very close in meaning to clear adverbs like *vermutlich* (“presumably”) or *wahrscheinlich* (“probably”). However, the restriction is underspecified – it can, e.g., also convey that the speaker does not have sufficient evidence for an unmodified assertion of the host proposition, which can convey a flavor of hearsay (reportative *wohl*). More generally, *wohl* restricts the speech act in some way. This gives the addressee some leeway for commenting on whether or not the speech act should be carried out or not, which is where the question-forming aspect of *wohl* comes from.

For example, a reminding split scope sentence usually reacts directly to the addressee, while a PRQ can also react to contextual evidence.

(54) Du kommst doch wohl zu meiner Party?

(54) does not make sense as a reminder. It might thus be a question only via implicature, much like Zimmermann (2008) suggests for questions like (55), in which the question-forming implicature is triggered by the speaker uttering an assumption about a proposition that the addressee is able to add or remove from the CG with utmost authority:

¹³This is very compatible with a question-forming usage of *doch*.

(55) Das ist wohl dein Freund?

On the combination of *doch* and *wohl*, Thurmair lists the following features that are present in the combination of *doch* and *wohl*: *doch* contributes its usual [BEKANNT]_x feature, while *wohl* restricts the assertion (i.e. it, too, contributes its usual feature). The speaker marks the proposition as known and true, but restricts this assertion. Thurmair explicitly says that this restriction is “nachträglich”, which clearly suggests that *wohl* outscopes *doch* (which in turn directly modifies the proposition). The speaker intends the assertion to make the same contribution as it would without *wohl*, but makes a concession to the addressee by adding *wohl* – this concession allows the addressee to agree or disagree. The speaker expects agreement, however, which is contributed by *doch*.

In declaratives that are intended as questions – i.e. in RQs – *doch* contributes [BEKANNT]_s, which she claims is responsible for the strong flavor of the speaker expecting agreement. She goes on to claim that the modal particles can be graded on a scale of the strength of answer expectation:

- (56) a. Ihr hört wohl keine ausländischen Sender?
S assumes that $\neg p$.
b. Ihr hört doch wohl keine ausländischen Sender?
S assumes and hopes $\neg p$.
c. Ihr hört doch keine ausländischen Sender?
S is, in principle, sure that $\neg p$, and just wants to double-check.
(after example (21) from Thurmair 1989: p. 220)

The last German modal particle to consider is *etwa*. It can give a rejecting meaning to both positive and negative polar questions. Let us compare otherwise identical PPQs without and with *etwa*:

- (57) Kommt Peter zur Party?
comes Peter to.the party
“Is Peter coming to the party?”

The PPQ in (57) has a [-NEG] evidential and a [-POS] epistemic bias. It can be uttered in any context as long as there is no compelling evidence against the proposition *that Peter is coming to the party*, and it allows only the inference that the speaker did not previously believe the proposition *that Peter is coming to the party*. Combining this PPQ with *etwa* changes both biases:

- (58) Kommt Peter etwa zur Party?
comes Peter MP to.the party
“Is Peter coming to the party (to my surprise)?”

Now, the evidential bias is [+POS] – i.e. the question can no longer be uttered in contexts with no contextual evidence pointing either way – and the epistemic bias is [+NEG], i.e. the speaker can no longer have been epistemically unbiased with respect to Peter’s coming.

It is striking that *etwa* can also occur in declaratives (contra the claims in Thurmair 1989, Gast 2008 and Gieselman and Caponigro 2009 that it only occurs in interrogatives), provided that it scopes under (at least) *nicht*, usually occurring however under the entire particle stack *doch wohl nicht*.¹⁴

- (59) Peter kommt doch wohl nicht etwa zur Party?
Peter comes MP MP not MP to.the party
“Surely Peter isn’t coming to the party?”

If *etwa* combines only with *nicht*, the bias profile of the resulting question may actually be different than that of NRQs proper:

- (60) Peter kommt nicht etwa zur Party?
Peter comes not MP to.the party
Ambiguous: “Surely Peter isn’t coming to the party?” or “Peter wouldn’t happen to be coming to the party?”

(60) might also have a reading as a suggesting question, similar to a question containing *nicht zufällig*, with a [-POS] evidential and [-POS] epistemic bias.

One difference between polar questions hosting *etwa* and NRQs hosting *doch wohl nicht* is that only in the latter is it possible for *auch* (*too*) to occur in the surface scope of negation.

(61) illustrates an ungrammatical *etwa*-PPQ with negation outscoping *auch*.

- (61) *Kommt Peter etwa nicht auch?
comes Peter MP not too
Intended: “Isn’t Peter coming, too (to my surprise)?”

Here, the epistemic biases introduced by high negation ([+POS]) and *etwa* ([+NEG]) clash, so this incompatibility is not surprising. The high negation in NRQs, on the other hand, does not seem to be associated with [+POS] epistemic bias, because otherwise (62) would be predicted to be ungrammatical, contrary to fact.

¹⁴Or just *doch nicht*. Just *wohl nicht* does not seem to be able to combine with *etwa*.

- (62) Peter kommt doch wohl nicht auch?
 Peter comes MP MP not too
 “Surely Peter isn’t coming to the party, too?”

I come back to the issue of the licensing of *auch* in section 2.2.4.2.

2.2.3 Pragmatic functions of RQs

In this section, I investigate the specific pragmatic functions that RQs can have. This investigation lends further support to the claim that their bias profile is indeed as narrow as claimed. The list of pragmatic functions is based on Gyuris (2016), who discusses various uses of Hungarian question types, based on previous discussion in Bolinger (1978), Büring and Gunlogson (2000), van Rooy and Šafářová (2003), Biezma (2009) and Truckenbrodt (2004). She differentiates neutral information questions, uttered in a truly neutral context, from grounding questions (used by the speakers to double-check inferences that may clash with previous assumptions), informal requests, in which the question functions as an indirect request, polite offers, conversation starters, questions with legal consequences, pedagogical questions, monological questions, exam questions, and rhetorical questions.

It follows straightforwardly from NRQs’ [+POS] evidential bias that a NRQ cannot be used as a neutral information question. They can however be used as grounding questions, as long as polarity is not made part of the definition of grounding questions. A grounding question is used by the speaker to double-check an inference – which requires that there be contextual evidence for or against the prejacent of the question (i.e. the evidential bias of a grounding question must have a plus-value). This is fulfilled by NRQs’ [+POS] evidential bias. Furthermore, Reese (2007) defines grounding questions as normally occurring in contexts in which the speaker of the question “holds off updating her epistemic state, or her model of the common ground” (Reese 2007: 123) until she gets a reaffirmation by the addressee. As discussed in section 2.1.4, there is a tendency to simply accept easily accommodated new facts instead of questioning them, which means that the act of questioning itself can point to an epistemic conflict in the speaker’s mind. Grounding questions thus tend to have epistemic bias values opposite to their evidential bias values. This is, again, the case with NRQs, which have [+NEG] epistemic bias.

Turning to informal requests, RQs in general cannot be used to request something from the addressee. (63) illustrates a PPQ felicitously used as an indirect request. (64) illustrates for RQs of both polarities that they are infelicitous in such a context – each for different reasons.

- (63) A is carrying heavy luggage and wants B to open a door for him/her.

Machst du mir die Tür auf?
 make you me the door open
 “Will you open the door for me?”

(64) A is carrying heavy luggage and wants B to open a door for him/her.

- a. #Du machst mir doch wohl nicht die Tür auf?
 you make me MP MP not the door open
 “Surely you won’t open the door for me?”
- b. #Du machst mir doch wohl die Tür auf?
 you make me MP MP the door open
 “Surely you will open the door for me?”

The reason that (64a) is infelicitous is again the NRQ’s [+POS] evidential bias – if there were evidence pointing to the fact that the addressee is going to open the door for the speaker, there would be no point in requesting this act.¹⁵ Anticipating the discussion of positive rejecting questions and their quirks, we can say that – while the PRQ’s [+NEG] evidential bias in (64b) is strictly speaking compatible with the context, as there is an absence of evidence that the addressee is about to perform the requested act, which can be taken as evidence of absence of intent – (64b) is impolite to the point of sounding like a threat. This is arguably the case because of a competition between speech acts – the speaker could have chosen to ask the PPQ in (63), but instead chose a very strongly biased PRQ, which conveys that the speaker is getting impolite.

RQs also cannot be used to formulate polite offers. (65) only has an impolite reading in which the speaker seems to insinuate that the addressee would be out of line in desiring a cup of coffee. This stands in contrast to the facts in Swedish, where questions that are string-identical to RQs with fronted negation can, in fact, be used as polite offers, cf. the ambiguous translation of (66).

(65) Du willst doch wohl nicht eine Tasse Kaffee?
 you want MP MP not a cup coffee
 “Surely you don’t want a cup of coffee?”

(66) Inte vill du ha en kopp kaffe?
 not want you have a cup coffee
 Ambiguous: “You don’t want a cup of coffee, by any chance?” or “Surely you don’t want a cup of coffee?”

In German, if a declarative sentence containing negation is to be understood as a question

¹⁵Even if the polarity of the contextual evidence were correct, i.e. the addressee goes to open the door for the speaker, the NRQ’s [+NEG] epistemic bias would heavily imply that the addressee is *not* supposed to open the door for the speaker.

2.2 Rejecting questions – theoretical issues

expressing a polite offer, modal particles other than *doch wohl* have to be used, cf. (67), in which *zufällig* (*by any chance*) introduces the desired polite effect. Note that in polar questions, *zufällig* may combine with negation, while in declarative questions, it has to combine with negation (if it occurs without negation in a declarative question, only an irrelevant reading is available that can be paraphrased as *You want a cup of coffee, and this is due to random chance?*, i.e. one where *zufällig* is part of the proposition instead of being a speech-act-level operator). Thus, (67) is another instance, besides RQs, of a question with declarative syntax in which high negation interacts with a modal particle.

- (67) Du willst nicht zufällig eine Tasse Kaffee?
 you want not by.any.chance a cup of coffee
 “You don’t want a cup of coffee, by any chance?”
- (68) Willst du zufällig eine Tasse Kaffee?
 want you by.any.chance a cup coffee
 “Do you want a cup of coffee, by any chance?”
- (69) Willst du nicht zufällig eine Tasse Kaffee?
 want you not by.any.chance a cup coffee
 “Don’t you want a cup of coffee, by any chance?”

RQs, regardless of polarity, cannot be used to start a conversation, cf. (70), based on example (15) in Gyuris (2016).

- (70) A and B are waiting outside a lecture hall at university. They do not know each other. A wants to initiate a conversation and asks:
- a. #Du bist doch wohl kein Ersti?
 you are MP MP no first.year.student
 “Surely you are not a first year student?”
 - b. #Du bist doch wohl Ersti?
 you are MP MP first.year.student
 “Surely you are a first year student?”

While the NRQ’s [+POS] evidential bias might, in theory, be satisfied (e.g. if the lecture A and B are waiting for is only available to first year students), it is nevertheless too presumptuous to initiate a conversation politely. Concretely, the NRQ’s epistemic bias implies that the speaker believes (or wishes to believe) that the addressee is *not* a first year student, which is too loaded to serve as a polite conversation starter. On the other hand, the PRQ fails on two counts: its evidential bias implies that the speaker assumes there is evidence pointing to the fact that the addressee is not a first year student, while its epistemic bias indicates a preference to the contrary.

2.2 Rejecting questions – theoretical issues

In contexts in which questions have legal consequences, such as in a courtroom, NRQs cannot be used:

(71) At a hearing, the judge asks a witness:

#Sie kennen diesen Mann doch wohl nicht?
you know this man MP MP not
“Surely you do not know this man?”

This follows straightforwardly from both biases of the NRQ – its [+POS] evidential bias presumes that the witness may already have committed themselves to knowing the man in question, which may not be the case, while its [+NEG] epistemic bias implies that the judge would prefer a state of affairs in which this is not the case. Since judges are required to be impartial, this accounts for the oddity of (71).

Finally, RQs regardless of polarity cannot be used as exam questions, which are used to test the addressee’s knowledge of the answer, which the speaker already knows.

(72) A teacher asks a student in class:

- a. #Der Harz liegt doch wohl nicht in Sachsen?
the Harz lies MP MP not in Saxony
“Surely the Harz does not lie in Saxony?”
- b. #Der Harz liegt doch wohl in Sachsen?
the Harz lies MP MP in Saxony
“Surely the Harz lies in Saxony?”

While (72a) could, in theory, be used as a (not very polite) follow-up question to a student’s assertion that the Harz is located in Saxony, it cannot be used as an initial exam question – and the PRQ in (72b) could not even be used as a follow-up question.

In summary, NRQs’ [+POS] evidential and [+NEG] epistemic bias are largely able to account for the limited distribution of NRQs in special question subtypes. Of the subtypes considered here, NRQs can only be used as grounding questions. I claim that there is a difference between NRQs and PDQs when used as grounding questions, however – NRQs’ epistemic bias is inherently narrow (i.e. a plus-value), while PDQs have a wide epistemic bias, specifically [-POS], which can be narrowed to [+NEG] by means of intonation. This predicts that PDQs can occur in contexts in which NRQs cannot. One such context is given in (73).

(73) A and B are on vacation, where it has been sunny as often as it has been rainy. A is sitting indoors, with no clue as to the current weather, when B enters wearing sunglasses.

- a. Es scheint die Sonne?
it shines the sun
“The sun is shining?”
- b. #Es scheint doch wohl nicht die Sonne?
it shines MP MP not the sun
“Surely the sun isn’t shining?”

Declarative questions thus do not necessarily indicate that the questioned prejacents clashes with the beliefs of the speaker since, by the definition of the context, the speaker did not have a concrete belief in (73). RQs require previous beliefs, hence the infelicity of (73b).

2.2.4 Polarity items in German rejecting questions

In this section, I investigate the licensing of polarity items in German rejecting questions. I begin by showing that negative polarity items (NPIs) are generally not licensed in negative rejecting questions, and propose an analysis that is able to account for this fact. This analysis also predicts that positive polarity items should not be licensed in positive rejecting questions, which is investigated in the next subsection.

2.2.4.1 Negative polarity items

Negative polarity items are antilicensed in negative rejecting questions. (74) illustrates this with the weak NPI *ausstehen können* (*can stand*). The position of negation – following the object as in (74), or immediately preceding it – does not make a difference in acceptability. The strong NPI *keinen roten Heller* (no red cent) is shown to be ungrammatical in NRQs in (75), regardless of the morphological form of negation – *kein X* (*no X*) vs. *nicht einen X* (*not an X*).

- (74) *Paul kann doch wohl schlechtes Wetter nicht ausstehen?
Paul can MP MP bad weather not stand
Intended: “Surely Paul cannot stand bad weather?”
- (75) a. *Paul hat doch wohl keinen roten Heller?
Paul has MP MP no red cent
- b. *Paul hat doch wohl nicht einen roten Heller?
Paul has MP MP not a red cent
Both intended: “Surely Paul does not have a red cent to his name?”

The ungrammaticality of the NRQs in (75) points towards the negative marker not being able to license the strong NPI, presumably because the negation in those questions is not propositional and instead active at the speech act level – e.g. it could correspond to *FALSUM*

(Repp 2009, 2013).

The case of *ausstehen* is particularly interesting as it is a weak NPI – it does not necessarily need clausemate negation and can also grammatically occur in non-negative environments. It can also occur in polar questions, wh-questions, the protasis of conditional sentences, the restriction of universal quantifiers, the restriction of *the only*, and the scope of *only* (list of licensing contexts based on Hoeksema 2012).

- (76) Kann Paul schlechtes Wetter ausstehen?
can Paul bad weather stand
“Can Paul stand bad weather?” [polar question]
- (77) Wer kann schlechtes Wetter ausstehen?
who can bad weather stand?
“Who can stand bad weather?” [wh-question]
- (78) Falls du schlechtes Wetter ausstehen kannst, geh jetzt raus.
if you bad weather stand can go now out
“If you can stand bad weather, go outside now.” [protasis of conditional]
- (79) Alle Studenten, die schlechtes Wetter ausstehen können, sind gerade draußen.
all students who bad weather stand can are now outside
“All students who can stand bad weather are outside right now.”
[restriction of universal quantifier]
- (80) Das ist der einzige Film, den ich ausstehen kann.
das is the only movie which I stand can
“This is the only movie I can stand.” [restriction of *the only*]
- (81) Nur Paul kann schlechtes Wetter ausstehen.
Only Paul can bad weather stand
“Only Paul can stand bad weather.” [scope of *only X*]

It cannot, however, occur in positive declarative questions:

- (82) *Paul kann schlechtes Wetter ausstehen?
Paul can bad weather stand
“Paul can stand bad weather?”

In this respect, positive declarative questions pattern with negative rejecting questions, as well as polar questions with outer negation, in which weak NPIs also cause ungrammaticality, cf. (83).

- (83) *Kann Paul nicht schlechtes Wetter ausstehen?
can Paul not bad weather stand?
Intended: "Can't Paul stand bad weather?"

Questions in general (i.e. polar questions, wh-questions and declarative questions) are not downward entailing, but they are non-veridical. Giannakidou (2011) suggests that non-veridicality is the unifying factor behind all contexts that license NPIs. The prediction is thus that questions in general can license weak NPIs, which is not borne out – positive DQs, NRQs and ONPQs do not license weak NPIs.

A possible analysis of the fact that ONPQs and NRQs cannot host weak NPIs despite being questions, and as such non-veridical, is based on the analysis of weak NPIs in non-downward entailing, veridical sentences in Giannakidou (2011). She suggests that in such sentences – examples are given in (84) and (85)– the NPIs are not licensed, but instead ‘rescued’. This rescue requires that the context gives rise to a non-veridical inference.

- (84) Nur Paul kann schlechtes Wetter ausstehen.
 only Paul can bad weather stand
 “Only Paul can stand bad weather.”
- (85) Maria ärgert es, dass Paul schlechtes Wetter ausstehen kann.
 Maria irritates it that Paul bad weather stand can
 “Maria is irritated (by the fact) that Paul can stand bad weather.”

Specifically, in the utterance context of (84), the anti-veridical inference in (86) is available, while (85) gives rise to the inference in (87). In both sentences, the NPIs are in the scope of an anti-veridical operator. If these inferences can be associated with the NPIs in (84) and (85), then these NPIs are rescued.

- (86) Nobody but Paul can stand bad weather.
- (87) Maria wishes that Peter couldn’t stand bad weather.

Coming back to the issue of weak NPIs causing ungrammaticality in ONPQs and NRQs, a parallel solution is available. In the case of ONPQs, an inference can be drawn that the speaker considers the prejacent of the question without negation likely to be true (from the question’s [+POS] epistemic bias). This prejacent is veridical. If this inference *must* associate with the NPI in the ONPQ, this would be an explanation for the ungrammaticality of a weak NPI in a non-veridical context. Note that an ONPQ gives rise to an additional inference – that the speaker assumes there to be no evidence for the positive answer (in other words, ONPQs have a [-POS] evidential bias). This additional inference will become more relevant in the discussion of NRQs.

- (88) $\neg?p \rightarrow [p]^{epist}$ (additional inference: $\neg[p]^{evid}$)¹⁶

¹⁶Read: there is no evidence for *p*.

¬?p: “*Kann Peter nicht schlechtes Wetter ausstehen?”

is ill-formed because the NPI must associate with:

p: “*Peter kann schlechtes Wetter ausstehen.”

A similar reasoning can explain why NRQs containing weak NPIs are ungrammatical. The only difference is that the inference that can be drawn after an utterance of an NRQ is now one about the contextual evidence that is available. Specifically, the speaker of an NRQ presupposes that there is contextual evidence for the prejacent of the question without negation (in other words, NRQs have a [+POS] evidential bias). Once again, if the NPI is forced to associate with this veridical inference, then weak NPIs in NRQs would be correctly ruled out.

(89) $\neg RQp \rightarrow [p]^{evid}$ (additional inference: $[\neg p]^{epist}$)

¬RQp: “*Peter kann doch wohl schlechtes Wetter nicht ausstehen?”

is ill-formed because the NPI must associate with:

p: “*Peter kann schlechtes Wetter ausstehen.”

Note that the additional inference that can be drawn from an utterance of an NRQ, namely that the speaker believes the negated prejacent of the question to be more likely to be true, is potentially more problematic here than it was in the case of ONPQs: this inference is expected to be able to rescue (in Giannakidou’s terms) the NPI in the NRQ. A potential solution here would be to say that an NPI in a non-veridical context must associate with any and all operators hosted in inferences available in the utterance context (for our present purposes, this must be at the very least explicit formulations of a question’s epistemic and evidential biases) – and even a single inference hosting a veridical operator is enough to rule out the whole question, no matter if there are any rescuing inferences.

2.2.4.2 Positive polarity items

It was already mentioned in section 2.2.2.2 that the potential PPI *auch* (*too*) can occur in NRQs without resulting in ungrammaticality. Given that NRQs are unable to host even weak NPIs, this is the expected result at first glance. However, it turns out that the analysis proposed to account for the antilicensing of NPIs in NRQs also predicts *auch* to be ungrammatical in PRQs, contrary to fact:

(90) Peter kommt doch wohl auch zur Party?

Peter comes MP MP too to.the party

“Surely Peter is coming to the party, too?”

2.2 Rejecting questions – theoretical issues

The prediction would be that the PRQ in (90) gives rise to the inference that the speaker assumes that there is contextual evidence for the negated prejacent of the question, i.e. for **Peter kommt nicht auch zur Party*, which is anti-veridical and should rule out (90) by associating with the PPI.

It is possible that *auch* is not the best test case for the behavior of PPIs in PRQs. If we compare *auch* to words that are quite clearly PPIs (e.g. *durchaus* – “completely”, “thoroughly”), we do find a contrast in acceptability between PRQs containing PPIs and those without, cf. (91).

- (91) a. Maria wird damit doch wohl zufrieden sein?
 Maria will with.that MP MP satisfied be
 “Surely Maria will be satisfied with that?”
 b. ??Maria wird damit doch wohl *durchaus* zufrieden sein?
 Maria will with.that MP MP PPI satisfied be
 “Surely Maria will be thoroughly satisfied with that?”

It is difficult to isolate the source of degradation in (91b), however, since *durchaus* cannot occur in questions regardless of their syntactic form, cf. (92). It is therefore not possible that the inferred negative proposition *there is evidence that Maria is not thoroughly satisfied with that* is solely responsible for this degradation, since the non-veridicality of the PRQ is enough to explain the markedness of (91b).

- (92) a. *Maria ist damit *durchaus* zufrieden?
 Maria is with.that thoroughly satisfied?
 “Maria is thoroughly satisfied with that?”
 b. *Ist Maria damit *durchaus* zufrieden?
 is Maria with.that thoroughly satisfied?
 “Is Maria thoroughly satisfied with that?”

Here, it is worth noting that true PPIs like *durchaus* seem to cause markedness also in NRQs, despite the presence of the veridical inference *there is evidence that Maria is thoroughly satisfied with her grades*.

- (93) ??Maria ist mit ihrer Note doch wohl nicht *durchaus* zufrieden?
 Maria is with her grade MP MP not thoroughly satisfied
 “Surely Maria isn’t thoroughly satisfied with her grades.”

Finally, ONPQs might not pattern with the other question types here, since an ONPQ hosting *durchaus* seems less marked than the other examples under consideration:

- (94) Context: A and B are trying to think of students who were at least somewhat satis-

fied with their final grades. A suggests:

?War nicht Maria mit ihrer Note durchaus zufrieden?
was not Maria with her grade thoroughly satisfied
“Wasn’t Maria thoroughly satisfied with her grade?”

Ultimately, the issue of the licensing of polarity items in RQs (as well as in other question types) will need empirical investigation. The judgments are rather subtle.

2.3 Chapter summary

Diagnosing question bias is difficult. Finding out a question’s evidential bias hinges on agreement on whether a context is neutral or not (cf. Trinh 2014 contradicting Romero and Han 2004 on the issue whether ONPQs are felicitous in neutral contexts or not). If there is no agreement on whether a context provides evidence for a proposition, and if so, what kind of evidence, diagnosing a question’s evidential bias is impossible. A question’s epistemic bias, on the other hand, can depend on the context, as shown in sections 2.1.2 and 2.1.3. If the context is not controlled for this, a question’s epistemic bias will seem mutable.

I take the latter point, that a question’s epistemic bias can depend on the context, as support for the idea that at least epistemic bias should not be analyzed as part of the semantics of a question type. Instead, it should result from pragmatic reasoning about the motives of the speaker, along the lines of the analysis presented in section 2.1.4. Whether this is also possible for evidential bias, I leave open, but for reasons of convenience I assume in the remainder of this thesis that evidential bias is not part of the semantics of a question type, either.

3 Experimental investigation of Swedish and German rejecting questions

In order to further illuminate some of the issues discussed in Chapter 2, three experiments were conducted: a rating study on the evidential bias of Swedish negative rejecting questions (NRQs) and negative declarative questions (NDQs), an intonation study on the prosody of Swedish rejections and NRQs, and a rating study on the role of modal particles in German and Swedish RQs. These are discussed in the following sections.

The central findings of this chapter are the following: NRQs like those given in (1) have evidential and epistemic biases different from those of NDQs, even though both question types have declarative syntax and contain a negative marker.

- (1) a. Inte ska det regna?
 not shall it rain
 b. Es soll doch wohl nicht regnen?
 it shall MP MP not rain
 Both: “Surely it’s not going to rain?”

Specifically, the Swedish and German rejecting questions in (1) have a [+POS] evidential bias (i.e. there must be evidence for the proposition that it is raining) and a [+NEG] epistemic bias (i.e. the speaker must have expected or believed that it would not be raining), in contrast to NDQs’ [+NEG] evidential and [+POS] or [-NEG] epistemic biases. This is shown in Experiment I, Section 3.1.

Experiment II, described in Section 3.2, investigates the prosody of Swedish sentences containing fronted negation. Swedish NRQs containing fronted negation are shown to be prosodically distinct from string-identical rejections, supporting the claim that RQs are speech acts distinct from both rejections and from declarative questions (since they differ in intonation from rejections, and in their bias profile from declarative questions).

Finally, Experiment III (Sections 3.3 and 3.4), investigates both Swedish and German RQs. The Swedish part of the experiment was designed to shed more light on the semantics of *väl*. The German part of the experiment lends empirical support to the intuition that positive RQs are often somewhat ‘odd’ when compared to negative RQs, even if everything

except the polarity of the question is held constant.

3.1 Experiment I: evidential bias of Swedish RQs

The first experiment explores the evidential bias of Swedish NRQs and, by extension, Swedish NDQs. It also shows that the claim by Telemann et al. (1999) and Petersson (2008) that fronted negation is always more marked than low negation, i.e. is licit in a proper sub-sets of the contexts in which low negation is licit, is too strong – there are contexts in which the negative marker has to be fronted (unless the modal particle *väl* is inserted). The results of this study were previously reported in Seeliger and Repp (2018).

3.1.1 Aim

The study was partly explorative, investigating whether sentences with fronted negation are judged to be grammatical at all. Fronted negation in Swedish is a phenomenon of spoken and informal language, and during early interviews with native speakers of Swedish, some of them rejected sentences with fronted negation outright, even if given a licensing context. Furthermore, Lindström (2007) shows, using corpus data, that fronted negation has become increasingly rare in Swedish as spoken in Sweden over the last couple of hundred years, while it is much more common and has fewer pragmatic restrictions in Swedish as spoken in Finland. While participation in the study was theoretically open to speakers of Finland Swedish, only speakers from Sweden participated. This means that the results of the study should give a lower boundary for the acceptability of fronted negation in Swedish.

The central hypothesis is that there are contexts in which only sentences with fronted negation can be used felicitously, while sentences with low negation are infelicitous. These are contexts in which there is contextual evidence for a positive proposition, i.e. contexts in which only questions with a [+POS] or [-NEG] evidential bias are felicitous. Since negative declarative questions have [+NEG] evidential bias outside of list contexts, they are predicted to be infelicitous, while negative rejecting questions should be fine because they have [+POS] evidential bias.

Fronting of the negative marker is, however, not the only way for a negative declarative used as a question to function as a rejecting question: Petersson (2008) notes that the type of fronted negation that is at issue in this thesis can be paraphrased by low negation combined with one of the modal particles *ju* or *väl*. The choice of modal particle depends on whether the speaker wishes to outright reject a previously asserted or implied proposition, in which case s/he chooses *ju*, or to ask a rejecting question, in which case s/he chooses *väl*. Examples for these paraphrases are given in (2) and (3).

3.1 Experiment I: evidential bias of Swedish RQs

- (2) a. Inte ska det regna.
not shall it rain
- b. Det ska ju inte regna.
it shall MP not rain
Both: “It is not going to rain (as you should know).”
- (3) a. Inte ska det regna?
not shall it rain
- b. Det ska väl inte regna?
it shall MP not rain
Both: “Surely it is not going to rain?”

This study also investigated whether Petersson’s claim of the functional equivalence illustrated in (3) can be confirmed empirically, and furthermore if fronted negation itself is compatible with *väl*.

3.1.2 Method

The study had 24 participants, all native speakers of Swedish originally from Sweden who volunteered to participate without payment (age range 21 to 48 years, mean age: 27.8). Their task was to rate the contextual appropriateness of declarative sentences ending in question marks.

Two factors were varied in this experiment: position of *inte* (fronted or low) and presence of *väl* (present or absent, coded as MP+ and MP-, respectively). The experimental items had the form of short discourses between two speakers, in which contextual evidence for a positive proposition was introduced. This contextual evidence was then questioned by one of the speakers using a declarative sentence containing *inte* and ending in a question mark. An example item is given in (4).

- (4) Context: *Det är söndag och familjen Johansson tänker ta en promenad just nu. Alla tar på sig kläderna, men pappan också tar med sig ett paraply. Mamman säger:*
“It is Sunday and the Johanssons are about to go for a walk. Everyone is getting dressed, but the father also takes an umbrella with him. The mother says:”
- a. Det ska inte regna idag?
it shall not rain today
- b. Det ska väl inte regna idag?
it shall MP not rain today
- c. Inte ska det regna idag?
not shall it rain today

3.1 Experiment I: evidential bias of Swedish RQs

- d. Inte ska det väl regna idag?
not shall it MP rain today
Intended reading for all: “Surely it’s not going to rain today?”

Participants then rated the contextual appropriateness of the question in the given context on a 7-point scale. Instructions were “Hur lämpligt är denna fråga i detta kontext?” (“How appropriate is this question in this context?”), with a rating of 1 corresponding to “helt olämpligt” (“entirely inappropriate”) and a rating of 7 corresponding to “helt lämpligt” (“entirely appropriate”).

There were 16 experimental items. In most of the items, the contextual evidence was introduced in a non-verbal fashion, like in (4). In other items, the contextual evidence was a presupposition of utterances by the addressee. There were only 3 of such items. This uncontrolled factor did not have a statistically significant effect on judgments, i.e. it seems that Swedish NRQs work equally well with both types of contextual evidence.

Some of the items contained an unintended grammatical mistake: items in which the subject was a proper name (of which there were also 3) had the wrong order of subject and modal particle in the condition with fronted negation and with *väl*. This did not seem to have a statistically significant effect on the judgments, either.

The predictions for each of the conditions were as follows: [MP+, low negation] (i.e. sentences containing *väl* and low negation) should be trivially appropriate, since low negation is the canonical position of the negative marker in Swedish, and *väl* can occur in Swedish RQs (Experiment III investigates whether it can *only* occur in RQs). [MP-, low negation] should only have the reading as a negative declarative question, which should make the question inappropriate in the given contexts. The two [high negation] conditions were exploratory, as stated: if fronted negation is still grammatical in present-day Swedish as spoken in Sweden, ratings should be higher than for the [MP-, low negation] condition regardless of the presence or absence of *väl*. Whether or not *väl* and fronted negation interact (since both of them can and do occur in RQs individually) was an open question.

The full experimental material is provided in the appendix, section 6.1.

3.1.3 Results

The raw aggregate rating in each of the four conditions is shown in Table 3.1. The distribution of ratings within each condition is shown in Table 3.2.

The statistical analysis was carried out using package `ordinal` (Christensen 2015) for R (R Core Team 2016). The best model was a mixed model with an interaction of the fixed effects and random intercepts for subjects and items. The model parameters are given in Table 3.3.

3.1 Experiment I: evidential bias of Swedish RQs

MODAL PARTICLE	NEGATION	Rating
MP-	low	4.44
MP+	low	5.91
MP-	fronted	5.41
MP+	fronted	5.45

Table 3.1: Experiment I: Mean ratings across participants.

Rating	MP-, low	MP+, low	MP-, fronted	MP+, fronted
7	22.9	54.2	36.5	43.8
6	15.6	20.8	21.9	16.6
5	12.5	6.3	15.6	12.5
4	15.6	6.3	13.5	12.5
3	10.4	6.3	2.1	3.1
2	20.8	5.2	5.5	5.2
1	12.5	1.1	5.2	6.3

Table 3.2: Experiment I: Percentages of the distribution of ratings across conditions. Columns may not sum to 100% due to rounding.

Fronting of negation leads to an increase in acceptability that is not statistically significant. Insertion of *väl* leads to a highly significant increase in acceptability. The statistically significant interaction of the two factors NEGATION and MODAL PARTICLE looks as follows: if negation is fronted, then the presence of *väl* does not have an impact on ratings. If negation is low, then *väl* must be present for a fully grammatical sentence.

A violin plot of the results is shown in Figure 3.1 on p. 73. It can be seen that in the condition in which negation is low and *väl* is present (low, MP+), there was the highest proportion of maximal ratings, with comparatively few judgments on the lower half of the rating scale.

Fronting of the negation reduces the proportion of maximal ratings, but not to a statistically significant degree. A combination of fronted negation and presence of *väl* (fronted, MP+) was judged as just as acceptable as fronting of negation alone (fronted, MP-). Therefore, fronted negation is compatible with the modal particle *väl*.

Low negation without *väl* (low, MP-) was judged as the least acceptable of the four conditions – bearing out the prediction that at least one of the ways of marking a negative declarative as an RQ must be used in the given contexts.

3.1 Experiment I: evidential bias of Swedish RQs

	Estimate	SE	<i>z</i>	<i>p</i>
NEGATION	0.115	0.099	1.16	0.25
MODAL PARTICLE	0.442	0.104	4.27	< 0.0001
Interaction	-0.328	0.1	-3.29	< 0.001

Table 3.3: Experiment I: Model parameters for the best model.

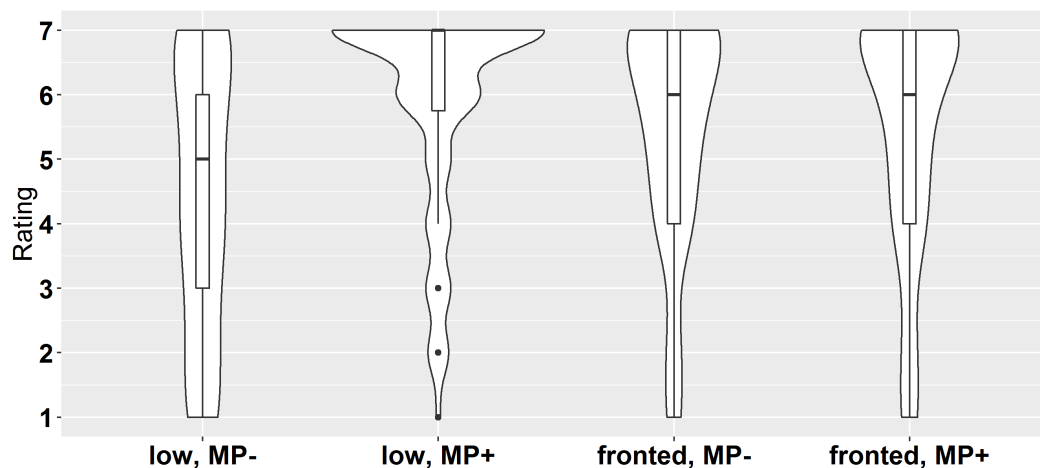


Figure 3.1: Experiment I: Violin plot of scores

3.1.4 Discussion

I take the results to indicate that the combination of *väl* and low negation represents the canonical way of asking an NRQ in Swedish – or at the least a way that is less marked than fronting of the negation.

Surprisingly, the average rating for the NDQ condition – low negation, absence of *väl* – was still quite high, however. It is not clear whether this represents a real grammatical difference between Swedish on the one hand and English and German on the other (since a negative declarative question is quite clearly incoherent in contexts with evidence for a positive proposition, unless the sentences are read as assertions combined with uptalk), or whether participants were unwilling to use the entire rating scale. This latter possibility is, however, unlikely, given that participants did make use of the entire rating scale in the case of the filler items, half of which were constructed to be trivially appropriate wh- and y/n-questions, and half of which were constructed to be trivially incoherent. Good fillers had an average rating of 6.3, while bad fillers had an average rating of 2.2.

While acceptability is somewhat reduced for sentences with fronted negation when com-

3.2 Experiment II: the intonation of Swedish rejecting questions

pared to sentences with low negation and with *väl*, the difference is not statistically significant – which I take to mean that fronted negation is grammatical in present-day Swedish. Furthermore, sentences with fronted negation and without *väl* were judged as more acceptable than sentences with low negation and without *väl*, which means that there are indeed contexts in which fronted negation is more acceptable than low negation.

The predictions regarding *väl* are confirmed: insertion of *väl* into a negative declarative results in an RQ reading. Doubly marking a negative declarative as an RQ by inserting *väl* and fronting the negation does not have an impact on acceptability. This means, on the one hand, that fronted negation and *väl* are compatible in their meanings, and, on the other hand, that redundancy of speech act marking is acceptable in this particular case.

3.2 Experiment II: the intonation of Swedish rejecting questions

The second study investigates if and how Swedish rejections and rejecting questions are disambiguated when modal particles are absent, i.e. it zooms in on the [fronted, MP-] condition from Experiment I, which can be either a rejection or a rejecting question according to Lindström (2007); Petersson (2008); Brandtler and Håkansson (2012, 2014). The results of this experiment were previously reported in Seeliger and Repp (2017).

3.2.1 Aim

A declarative containing fronted negation can in principle be used either as a rejection or as a rejecting question. Modal particles like *väl* and *ju* can disambiguate these speech acts – but how are they disambiguated in the absence of modal particles? A plausible hypothesis is that rejections and rejecting questions differ in terms of intonation, just like assertions and declarative questions (usually) differ in terms of intonation. If there were no difference in intonation between the two readings, then, in certain cases, the interpretation would depend entirely on the addressee. This would be unusual because questionhood is canonically signaled in some way (by intonation or by interrogative syntax), and leaving the addressee to decide on a reading would predict many more misunderstandings than there seem to be in actual speech.

There seems to be no general agreement on how Swedish DQs are realized intonationally, only that they usually differ from assertions (but not always). Utterance-final rising intonation may be a part of this difference, but is virtually never the only difference and is entirely absent at least in some dialects of Swedish according to Gårding (1979). In other dialects, both assertions and declarative questions are realized with utterance-final rising pitch – usually, in those cases question intonation is characterized by a) a raised baseline

3.2 Experiment II: the intonation of Swedish rejecting questions

(i.e. increased minimum pitch) or b) wider pitch movements or c) both (Gårding 1979). The posited intonational difference between rejecting questions and rejections could therefore be any of these differences – it is not enough to concentrate on the presence or absence of a final rise.

Another possible prosodic question cue in Swedish, found by House (2003) in a perception study investigating declarative questions, is that both the timing and the height of the utterance-final lexical accent play a role in question interpretation of sentences with declarative syntax – the higher and later the pitch peak was aligned, the more often participants perceived the declarative as a question. Furthermore, a lengthening of the penultimate syllable also correlated with an increase in question interpretation.

3.2.2 Method

There were 9 participants in this study, all of them female native speakers of Swedish. 8 participants were from Södermanland or Uppland, while one participant was from Västra Götaland. The restriction to female participants was done so that sex could be ignored as a factor. This removes one fixed effect from the statistical analysis and leads to less statistical noise in the data.

The target items were negated sentences with a transitive verb. The negation was fronted in all target items. All words in the target sentences were disyllabic and of accent type II.¹ The subjects were always proper names, while the objects were proper names in six out of eight items, with the other two objects being bare nouns (one plural, one mass).

Target items were embedded in a dialog between two speakers, Speaker A and Speaker B. After a context description that provided necessary background on the dialog, Speaker A asserted or implied a positive proposition. Speaker B then either rejected or questioned this proposition using a declarative sentence with fronted negation (the target item), followed by two or more follow-up sentences that served to disambiguate the experimental factors.

Two factors were varied in the study: speech act (rejection or rejecting question) and focus accent placement (verb or object). Focus accent placement was introduced as a factor because, on initial construction of the lexical material with an intended wide sentence focus, it became apparent that informants might decide on unwanted narrow focus readings, which might overlay any crucial intonational differences related to illocutionary force. Therefore, it was decided to strongly elicit narrow focus on the object and the verb so that focus as a factor could be controlled.

¹Swedish has two types of lexical accent, called accent I (or acute accent) and accent II (or grave accent). The exact phonological realization of these accents depends on the dialect. In the dialect under investigation in this study, accent II is realized as a H*L contour on non-focused words and as a H*LH contour on focused words (Bruce 1983).

3.2 Experiment II: the intonation of Swedish rejecting questions

The intended reading was primarily controlled by the right context of the target utterance. If the target utterance was supposed to be a rejection, the speaker supplied reasons for rejecting it while marking her reasoning with *ju* ('as you (should) know'). This was supposed to make it clear that the speaker was supplying information, not asking for it. If the target utterance was supposed to be a question, the right context contained reasons for doubting the proposition at issue. That the speaker was unsure about the truth of these reasons was marked with *väl* (roughly corresponding to English question tags) and the modal verb *borde* ('should', 'ought to'). This should make it clear that the speaker is unclear about the truth of the underlying proposition, i.e. that she was asking for further information, not supplying it. Focus was disambiguated by explicitly providing an alternative to the proposition that was rejected or second-guessed.

An example for an experimental item illustrating all conditions is given in examples (5) through (8). In the object focus conditions, the speaker of the rejection / RQ accepts that Eva is gluing something, but takes issue with the specific piece of furniture that she is gluing. On the other hand, in the verb focus condition, the speaker accepts that Eva is doing something to the old shelf, but denies or doubts that she is gluing it.

(5) [Rejection, object focus]

Ett samtal om hantverk och om reparationer.

A conversation about handicraft and repairs.

- a. Ah, titta, Eva limmar äntligen den där gamla hyllan.
ah look Eva glues finally that there old the.rack
"Ah, look, Eva is finally gluing that old rack."
- b. **Inte limmar Eva hyllan.** Den har hon ju redan kastat bort. Hon limmar
not glues Eva the.rack it has she MP already thrown away she glues
det antika bordet.
the antique the.table
"Eva isn't gluing the rack. She has already thrown that away, you know. She is
gluing the antique table. "

(6) [Rejecting question, object focus]

Ett samtal om Eva, som just nu sysslar med en gammal möbel.

A conversation about Eva, who is at the moment occupied with an old piece of furniture.

- a. Eva limmar någonting. Jag tror det är hennes gamla hylla.
Eva glues something I believe it is her old rack
"Eva is gluing something. I think it is her old rack."
- b. **Inte limmar Eva hyllan?** Den är väl hopplöst trasig? Hon borde limma
not glues Eva the.rack it is MP hopelessly broken she ought glue

3.2 Experiment II: the intonation of Swedish rejecting questions

bordet, det kan repareras.
the.table that can be.repaired
“Surely Eva isn’t gluing the rack? It is hopelessly broken, isn’t it? She ought to glue the table, that one can be repaired.”

(7) [Rejection, verb focus]

Ett samtal om reparationer och om hantverk.

A conversation about repairs and handicraft.

- a. Ah, Eva limmar sin gamla hylla. Det var verkligen på tiden.
ah Eva glues her old rack that was really on the.time
“Ah, Eva is gluing her old rack. That was really about time.”
- b. **Inte limmar Eva hyllan.** Var inte dum nu! Du kan ju höra att hon
not glues Eva the.rack be not stupid now you can MP hear that she
spikar den.
nails it
“Eva isn’t gluing the rack. Don’t be stupid! You can hear that she is nailing it.”

(8) [Rejecting question, verb focus]

Ett samtal om Eva, som just nu sysslar med en gammal hylla.

A conversation about Eva, who is at the moment occupied with an old rack.

- a. Jag undrar på vilket sätt Eva kommer att reparera den gamla hyllan. Om
I wonder on which way Eva will to repair the old the.rack if
jag ser det rätt, så limmar hon den.
I see it right so glues she it
“I wonder in which way Eva will repair the old rack. If I see it right, she is
gluing it.”
- b. **Inte limmar Eva hyllan?** I så fall kommer den vara trasig igen om en
not glues Eva the.rack in such case will it be broken again in a
vecka. Hon borde väl spika den?
week she ought MP nail it
“Surely Eva isn’t gluing the rack? In that case, it would just be broken again in
a week. Surely she ought to nail it?”

In order to prevent a hat contour across sentence pairs like “Eva isn’t GLUING the shelf. She is NAILING it.”, the rejection or rejecting question was separated from the following correction by (at least) one intervening sentence. This was done because the non-local hat contour could otherwise have overlaid any local question marking.

Figure 3.2 illustrates the experimental setup as seen by the participants. The entire dialog was shown at once. Pre-recorded readings of the context description and the part of Speaker A were played via headphones sequentially. Participants then recorded the part of Speaker B.

3.2 Experiment II: the intonation of Swedish rejecting questions



Figure 3.2: Experiment II: Experimental setup

In terms of givenness/newness, it was decided to keep all lexical material constant as given. This slightly reduced the naturalness of the dialogues in some cases (since it is not very idiomatic to repeat every previously given name instead of opting for pronouns), but eliminated givenness/newness as a factor. Having everything as new information was obviously not an option (since FN is used in reactions to previous utterances or states of affairs), and a mixture of given and new information would have introduced another factor.

The predictions were the following: with respect to focus, we expect the syllables of focused words to be characterized by higher pitch peaks, larger pitch excursions, longer durations and greater intensity (when compared with the syllables of unfocused words).

With respect to the difference between speech acts, if the prosodic question marking of rejecting questions is similar or identical to the question marking of declarative questions (as described in the previous literature), then we expect a raising of the pitch peaks and possibly a suppression of downstep (Gårding 1979), as well as a later temporal alignment of the pitch peaks (House 2003). In other words, Swedish questions appear to be prosodically marked as questions globally, i.e. across the entire utterance, and we do not expect to find a local (utterance-final) rise. If Swedish RQs do *not* pattern with other questions with declarative syntax in terms of their intonation, then no clear predictions can be made.

There were 8 experimental items with the illustrated four conditions, yielding a total of 32 recordings per speaker. The total of 286 recordings overall results from two recordings having to be discarded because of disfluency and for technical reasons. The full experimental material is given in the Appendix, section 6.2.

3.2 Experiment II: the intonation of Swedish rejecting questions

3.2.3 Results

The following quantities were measured on a per-syllable basis: pitch (maxima, means and minima), duration, the temporal alignment of the pitch peaks, and intensity. The data was segmented into syllables manually. The segments followed the Swedish rules of syllabification, with one caveat: geminate consonants, like e.g. [m:] in *limma* (“to glue”), were split across syllables, i.e. the first half of the consonant was treated as the coda of the first syllable, and the second half as the onset of the second syllable. This was done because treating the whole geminate consonant as the onset of the second syllable would have greatly unbalanced syllable lengths.

A time-normalized contour across all speakers is shown in Figure 3.3 (created with ProsodyPro, Xu 2013). The object focus conditions are represented by the solid lines; the verb focus conditions by the dashed lines. Rejections are in black; rejecting questions in gray. The first two syllables – “inte” in all sentences – did not differ systematically across conditions. Various differences between the conditions can be seen for all other syllables with the exception of the second syllable of the subject, i.e. [va] in (5) through (8). The first syllable of the verb (i.e. [lm] in the given examples) only shows a sensibility to the difference between focus placements. The second syllable of the verb (i.e. [mar]), the first syllable of the subject (i.e. [e:]), and both syllables of the object (i.e. [hyl:an]) also show an additional sensibility to the difference between speech acts.

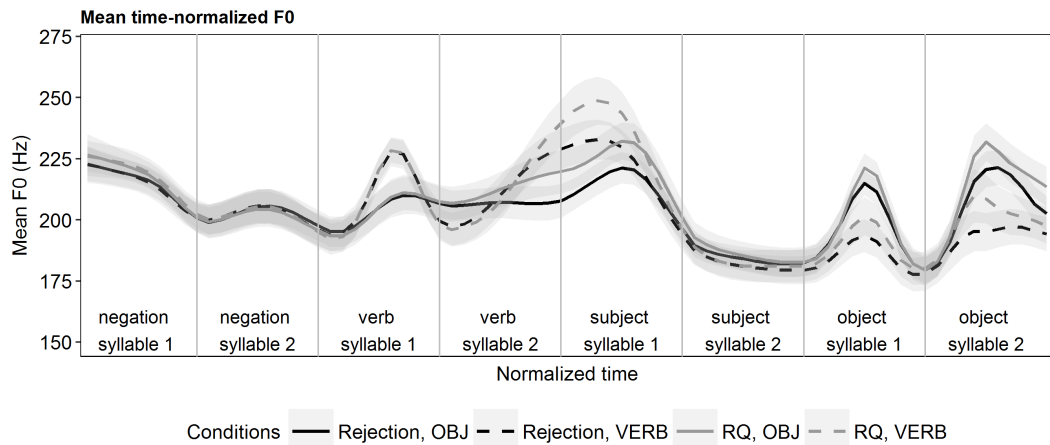


Figure 3.3: Experiment II: Normalized f0 contours across subjects

The statistic analysis was carried out using package `lme4` (Bates et al. 2015) for R (R Core Team 2016). Parameters of the best-fit linear mixed model are shown in Table 3.4 for the factor speech act and in Table 3.5 for the factor focus. I take t-values greater than $|2|$ to

3.2 Experiment II: the intonation of Swedish rejecting questions

be statistically significant.

The same model was fitted for every syllable: a mixed model including an interaction between the fixed effects, random intercepts for items, and random by-subject slopes for focus.

	word syllable	<i>negation</i>		<i>verb</i>		<i>subject</i>		<i>object</i>	
		<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>
$f0_{max}$ (Hz)	<i>b</i>	1.8	-0.3	1.0	5.3	7.2	1.0	3.8	6.0
	<i>se</i>	1.2	1.0	1.0	1.4	1.4	0.8	1.2	1.7
	<i>t</i>	n.s.	n.s.	n.s.	3.7	5.1	n.s.	3.3	3.6
$f0_{exc}$ (semitones)	<i>b</i>	0.1	0.02	0.2	0.4	0.4	0.08	0.3	0.3
	<i>se</i>	0.08	0.06	0.08	0.1	0.1	0.06	0.1	0.1
	<i>t</i>	n.s.	n.s.	2.2	3.2	4.1	n.s.	3.1	2.2
Duration (log)	<i>b</i>	-0.006	-0.004	0.009	0.003	0.01	0.001	0.02	0.01
	<i>se</i>	0.008	0.009	0.01	0.01	0.01	0.01	0.008	0.01
	<i>t</i>	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	2.54	n.s.

Table 3.4: Experiment II: Model parameters for factor speech act. Effect sizes are shown for rejecting questions.

Rejecting questions were characterized by comparatively higher pitch peaks (i.e. $f0_{max}$) and larger pitch excursions (i.e. $f0_{exc}$) both on focused and on non-focused syllables. These differences were not specific to one particular position in the utterance, instead being spread out across multiple syllables. The utterance-final syllable(s) do not appear to be ‘privileged’ in terms of question-marking like they are in English and German (cf. i.a. von Essen 1966 and references in Ambrazaitis et al. 2015) – in fact, the numerically largest and perceptually most prominent increase in pitch height and excursion was found on the boundary region between the verb and the subject, i.e. utterance-medially.

One additional difference between rejections and RQs that was not quite statistically significant is that the first syllable of the object was longer in RQs than it was in rejections. This increase is compatible with the finding of House (2003) that a later alignment of the penultimate syllable correlates with a stronger question interpretation of declarative sentences.

Almost all of the expected differences between focused and non-focused syllables were found to be statistically significant. Focused syllables were higher in pitch and longer than non-focused syllables. Pitch peaks on focused syllables were aligned later than on non-focused syllables. Only one expected focus effect did not show up clearly: focused syllables were not louder than non-focused syllables, so intensity has been omitted from Table 3.5.

3.2 Experiment II: the intonation of Swedish rejecting questions

	word syllable	<i>negation</i>		<i>verb</i>		<i>subject</i>		<i>object</i>	
		<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>
$f0_{max}$ (Hz)	<i>b</i>	-0.7	1.0	7.9	10.6	8.6	-2.4	-9.9	-11.3
	<i>se</i>	1.4	1.0	2.3	3.2	3.1	1.1	2.2	3.3
	<i>t</i>	n.s.	n.s.	3.5	3.3	2.7	-2.2	-4.5	-3.4
$f0_{exc}$ (semitones)	<i>b</i>	-0.1	0.1	0.8	1.1	0.7	-0.09	-0.8	-0.8
	<i>se</i>	0.1	0.07	0.2	0.3	0.2	0.06	0.2	0.3
	<i>t</i>	n.s.	n.s.	3.5	4.3	3.5	n.s.	-4.5	-2.9
Duration (log)	<i>b</i>	-0.04	0.01	0.16	0.11	-0.01	-0.01	-0.11	-0.08
	<i>se</i>	0.02	0.01	0.04	0.02	0.01	0.01	0.02	0.02
	<i>t</i>	-2.13	n.s.	4.22	4.36	n.s.	n.s.	-4.40	-4.28
Pitch peak position (ms)	<i>b</i>	-3	-0.3	9	28	-9	0.7	-13	-2
	<i>se</i>	1.8	3	6	6	3	3	4	4
	<i>t</i>	n.s.	n.s.	n.s.	4.48	-3.37	n.s.	-3.63	n.s.

Table 3.5: Experiment II: Model parameters for factor focus. Effect sizes are shown for verb focus.

3.2.4 Discussion

Unfocused words carrying Accent II are realized as H*L in the dialect that was investigated, while focused words carrying Accent II are realized as H*LH. My interpretation of the pitch peaks in the normalized contours is as follows: in utterances with object focus (solid lines), there is a H*L accent on the verb, aligned with its first syllable, then a plateau before the next H*L accent on the first syllable of the subject, followed by a sharp drop before the final H*LH accent on the focused object. In utterances with verb focus (dashed lines), the H*LH accent on the focused verbs merges with the following H*L accent on the subject – there is only one intonational gesture where two would have been expected. The temporal alignment of this peak is earlier than that of the non-merged H*L subject accent in the object focus condition. Finally, the apparent and unexpected H*LH accent on the object in utterances with verb focus might be due to artifacting – most participants tended to realize those syllables with creaky voice, which might have reduced the accuracy of the measurement.²

There is a consistent prosodic difference between rejections and rejecting questions in Swedish. This difference is realized regardless of which word is contrastively focused – in other words, rejecting questions are characterized by an increase in fundamental frequency

²The statistical analysis described above used data in which syllables that had been realized with creaky voice were excluded.

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

on both focused lexical accents and on non-focused lexical accents. The factors FOCUS and SPEECH ACT did not interact in any of the measures. The findings are in line with the results of previous experimental investigations of Swedish (declarative) questions, suggesting that Swedish questions are often or always marked prosodically by the mentioned features – regardless of the specific speech act that they instantiate. A direct comparison of Swedish NDQs and NRQs may not be possible, since Swedish NDQs and NRQs are virtually always not string-identical. I leave this issue for future research.

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

The final set of experiments investigates the role of negation in RQs, in particular its interaction with the modal particles *väl* in Swedish and (*doch*) *wohl* in German. It is split into two parts – one on Swedish and one on German.

3.3.1 Aim

The original question that led to the design of Experiment IIIa – the Swedish subpart – is the following: can *väl* be used to ask rejecting questions regardless of the questioned proposition's polarity? Or is there an asymmetry between the polarities, in the sense that declarative questions containing *väl* and negation are rejecting questions, while declarative questions containing *väl* and no negation are another type of question altogether?

Aijmer (2015: p. 174) translates *väl* as *I guess that* and *I suppose that* – which would also be possible translations of German *wohl*. Alm (2012)'s analysis of *väl* is that it “both marks the proposition as uncertain and signals that the hearer is the source of knowledge” (Alm 2012: p. 47), which would certainly also be an accurate description of German *wohl*, at least when it occurs in declaratives that are perceived to be questions. On the other hand, Experiment I showed that *väl* can produce a RQ reading even when the negation is low, which is also an observation made by Petersson (2008) and Brandtler and Håkansson (2012, 2014).

In the following, I will call (declarative) questions that are used by the speaker to mark a proposition as a hypothesis that he/she formulated on the basis of contextual evidence *hypothesizing questions* (HQs for short). These correspond to German declaratives containing *wohl* that are used as questions, such as (9):

- (9) The speaker encounters the addressee with an unknown man. The addressee and the man are holding hands. The speaker says:

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

Das ist wohl dein Freund?
that is MP your boyfriend
“I guess that is your boyfriend?”/“That must be your boyfriend, I take it?”
(modeled after example (9) in Zimmermann 2004)

In the model used in this thesis, positive hypothesizing questions have a [+POS] evidential bias and a [NEUTRAL] epistemic bias (with only the epistemic bias differing from DQs’ [-POS] epistemic bias), while negative hypothesizing questions have a [+NEG] evidential bias and a [NEUTRAL] epistemic bias. The difference between DQs and HQs – besides the values of their epistemic biases – is that HQs cannot target presuppositions of an utterance that the addressee has made – instead, they present the questioned proposition as entirely new to the discourse (which is incoherent if the addressee can safely be assumed to be publicly committed to this proposition). (10) and (11) illustrate this contrast between German DQs and declaratives containing *wohl*, which are HQs.

- (10) a. A: We have to wait for Peter before we start.
B: Peter kommt auch?
“Peter is coming, too?”
b. A: We have to wait for Peter before we start.
B: #Peter kommt wohl auch?
“Peter is coming, too, I take it?”
- (11) a. Before a meeting, the speaker sees that a box of Peter’s favorite kind of cookies is on the table.
B: Peter kommt auch?
“Peter is coming, too?”
b. Before a meeting, the speaker sees that a box of Peter’s favorite kind of cookies is on the table.
B: Peter kommt wohl auch?
“Peter is coming, too, I take it?”

The central question behind the Swedish part of Experiment III is whether *väl* can occur in HQs, like German *wohl*, or whether *väl* always gives rise to a RQ reading, unlike *wohl*, unless it is accompanied by *doch*.

3.3.2 Method

There were 36 participants, all native speakers of Swedish. Participants were acquired using Prolific (prolific.ac) and paid £2.50 each. The experiment consisted of 24 items and

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

24 fillers. There were two factors with two levels each, yielding four versions of each item.

In Swedish, the two (intended) question types of the same polarities are string-identical. The issue is whether declaratives containing *väl* and negation can occur only in contexts with evidence for the unnegated underlying proposition (which experiment I has shown to be possible), or also in contexts with evidence for the negated underlying proposition. (12) and (13) give an example for an experimental item. The translations containing “I guess” indicate hypothesizing questions, while the translations containing “Surely” indicate rejecting questions.

- (12) Context: “*Anders, Elisabet and their adult son Karl are cleaning their house this week. Anders and Elisabet are just returning from the hardware store when they see that there are boxes from the attic in front of the yard gate. Elisabet says:*”
- a. Karl har **väl** städat vinden? Det skulle han ju egentligen låta bli.
Karl has MP cleaned the attic that should he MP actually let be
Intended: “I guess Karl has cleaned the attic? He was supposed to not do that.” (PHQ)
 - b. Karl har **väl inte** städat vinden? Det skulle han ju egentligen låta bli.
Karl has MP not cleaned the attic that should he MP actually let be
Intended: “Surely Karl has not cleaned the attic? He was supposed to not do that.” (NRQ)
- (13) Context: “*Anders, Elisabet and their adult son Karl are cleaning their house this week. Anders and Elisabet are just returning from the hardware store when they see that there are no boxes from the attic anywhere to be seen in front of the yard gate. Elisabet says:*”
- a. Karl har **väl** städat vinden? Det skulle han ju egentligen göra.
Karl has MP cleaned the attic that should he MP actually do
Intended: “Surely Karl has cleaned the attic? He was supposed to do that.” (PRQ)
 - b. Karl har **väl inte** städat vinden? Det skulle han ju egentligen göra.
Karl has MP not cleaned the attic that should he MP actually do
Intended: “I guess Karl has not cleaned the attic? He was supposed to do that.” (NHQ)

Since hypothesizing questions’ epistemic bias is [NEUTRAL], but the second sentences of the speaker’s utterance in both (14) and (15) indicate a specific expectation on the part of the speaker, hypothesizing questions should be rated lower than rejecting questions. If *väl* can occur in HQs and RQs both, then there should be no statistically significant difference between the HQ and RQ conditions.

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

This study is a rating study using a 7-point scale, which was prepared using OnExp.³ Participants were asked to judge the contextual coherence of the questions, not their grammaticality. The specific wording was: “I det följande presenteras först en situation och sedan en fråga som yttras i denna situation” (“*In the following, you will be presented first with a situation and then with a question that is uttered in this situation*”); “Hur lämplig är denna fråga i detta sammanhang?” (“*How fitting is this question in this context?*”); “Bedöm frågan på en skala från 1 (helt olämplig inom sammanhanget) till 7 (helt lämplig inom sammanhanget)” (“*Judge the question on a scale from 1 (entirely unfitting in the context) to 7 (entirely fitting in the context)*”).

If *väl* indeed interacts with negation – in the sense that negative questions containing *väl* are RQs, while positive questions containing *väl* are HQs – then only the two questions in (12) should be rated as coherent, while the questions in (13) should be unacceptable. On the other hand, if *väl* always yields a RQ reading even in the absence of negation, then only (12b) and (13a) – in which the contextual evidence and the question differ in polarity – should be judged as acceptable. Finally, if *väl* were to always yield a HQ reading (an unlikely possibility, considering that Experiment I has already shown that it can occur in RQs), only (12a) and (13b) should be judged as acceptable.

3.3.3 Results

Figure 3.4 shows the results of Experiment IIIa as violin plots with overlaid boxplots, split up by condition. Hypothesizing questions were uttered in a context with contextual evidence of the same polarity as the polarity of the question itself – these correspond to German questions containing only *wohl*, or to English DQs containing epistemic markers like initial *So* or (initial or final) *I guess*. Rejecting questions were uttered in a context with contextual evidence of the opposite polarity as the polarity of the question itself.

A significant main effect can clearly be seen: when *väl* occurs in HQs, this is rated as unacceptable for the most part. On the other hand, *väl* can felicitously occur in RQs, reproducing the results of Experiment I. A secondary effect can most clearly be seen when comparing the two RQ conditions – NRQs were judged to be more acceptable than PRQs, i.e. the presence or absence of the negative marker also had an effect on ratings. This effect was also present within the HQ condition: NHQs were rated as more acceptable than PHQs (although this effect is mostly visible in Figure 3.4 as NHQs being more polarized, i.e. receiving fewer intermediate ratings). Table 3.6 summarizes the mean ratings within each condition. Table 3.7 on p. 87 gives the raw data that underlies Figure 3.4.

The statistical analysis was carried out using package `ordinal` (Christensen 2015) for

³<http://onexp.textstrukturen.uni-goettingen.de>

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

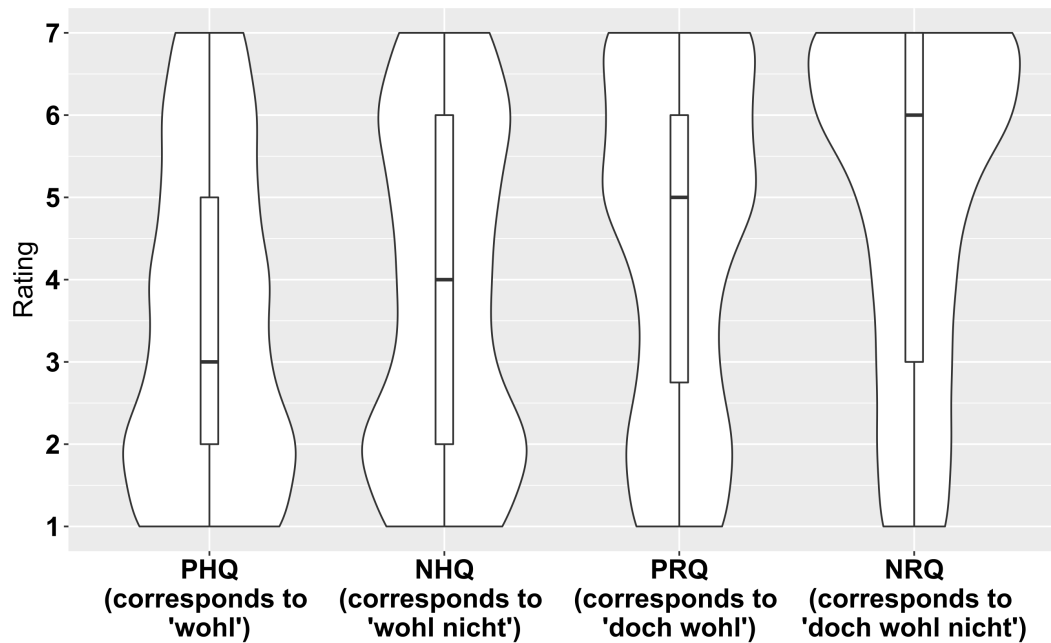


Figure 3.4: Experiment IIIa: Violin plots of the scores in each condition

Polarity	Reading	Rating
Positive	HQ	3.48
Positive	HQ	3.82
Negative	RQ	4.43
Negative	RQ	4.92

Table 3.6: Experiment IIIa: Mean ratings across participants

R (R Core Team 2016). The starting cumulative link mixed model included random effects for subjects and items, the main factors NEGATION and SPEECH ACT, and an interaction between the two main factors. I take z values greater than $|2|$ to be statistically significant. Model parameters of this starting model are given in Table 3.8. The factor NEGATION was above the significance threshold, indicating that questions of negative polarity were judged to be more acceptable than positive questions. The factor SPEECH ACT was highly significant, with rejecting questions (regardless of polarity) judged to be more acceptable than hypothesizing questions. The two factors did not interact to a statistically significant extent, meaning that negative utterances were judged as more acceptable, regardless of speech act, and that RQs were judged as more acceptable than HQs, regardless of polarity.

Model comparison yielded the following optimal model: no interaction between the main

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

Rating	PHQ	NHQ	PRQ	NRQ
7	8.8	11.6	20.4	27.4
6	11.6	17.1	16.2	24.2
5	11.1	12.5	19.9	12.6
4	14.8	11.1	9.7	9.7
3	13.4	10.6	8.8	8.8
2	21.8	22.2	13.4	8.8
1	18.5	14.8	11.6	8.4

Table 3.7: Experiment IIIa: Percentages of the distribution of ratings across conditions. Columns may not sum to 100% due to rounding.

	Estimate	SE	z	p
NEGATION	0.19	0.061	3.19	0.0139
SPEECH ACT	0.47	0.062	7.54	< 0.0001
Interaction	0.05	0.061	0.84	0.3992

Table 3.8: Experiment IIIa: Parameters of the starting model, including an interaction between the factors. Effect sizes are given for negative questions and for rejecting questions.

factors, random by-subject intercepts and slopes for NEGATION and SPEECH ACT and random by-item intercepts and slopes for NEGATION.

	Estimate	SE	z	p
NEGATION	0.20	0.109	1.83	0.0671
SPEECH ACT	0.63	0.149	4.25	< 0.0001

Table 3.9: Experiment IIIa: Parameters of the best model. Effect sizes are given for negative questions and for rejecting questions.

I also carried out an analysis of item quality by encoding two additional factors that were not intentionally introduced into the design: i) whether or not the questioned proposition was deontically plausible, i.e. whether it is easily accommodated that the subject of the question has an obligation *not* to do something. When this is not the case, it might reduce the rating of PHQs and NRQs – which ended in *S/he was supposed not to do that* – for reasons that have nothing to do with the question itself. ii) Whether or not the left context already gave a hint as to what the speaker of the question is expecting, which might reduce or

3.3 Experiment IIIa: bias profile of Swedish questions containing väl

eliminate the first unintended effect. I encoded these as factors DEONTICALLY PLAUSIBLE and LEFT DISAMBIGUATION.

(14) is an example of an experimental item that I coded as deontically implausible, i.e. a dialog that may have required further elaboration on why someone was supposed not to do something that is often the default cause of action – feeding fish, in this case:

- (14) Alexander och Ingrid talar om fiskdammen i sin trädgård, och om deras dotter Åsa har tittat till de unga fiskarna idag. Ingrid ser att en förpackning med fiskfoder är öppen i skåpet. Hon frågar:

Alexander and Ingrid talk about the fishes in their garden, and about whether their daughter Åsa has seen after them today. Ingrid sees an opened packet of fish fodder in the cupboard. She asks:

- a. Åsa har väl matat fiskarna? Det skulle hon ju inte göra.
Åsa has MP fed the.fishes that should she MP not do
Intended: “Åsa fed the fish, I take it? She was not supposed to do that.”
- b. Åsa har väl inte matat fiskarna? Det skulle hon ju inte göra.
Åsa has MP not fed the.fishes that should she MP not do
Intended: “Surely Åsa did not feed the fish? She was not supposed to do that.”

(15) is an example of an experimental item that outright stated within the left context what someone was supposed to do.

- (15) David och Elsa, två landskapsträdgårdsmästare, talar om trädfällningen i parken, och vad deras kollega Alva har gjort idag. Den gamla eken stod högt upp på listan av träd som ska avverkas. Elsa tittar på högen med fällda träd och ser att där inte ligger färsk ekgrenar. Hon frågar:

David and Elsa, two landscape gardeners, talk about the tree cuttings in the park, and what their colleague Alva has done today. The old oak stood high on the list of trees that should be felled. Elsa looks at the pile of felled trees and sees that there are no fresh oak branches on it. She asks:

- a. Alva har väl fällt eken? Det skulle hon ju egentligen göra.
Alva has MP felled the.oak that should she MP actually do
Intended: “Surely Alva felled the oak? She was supposed to that.”
- b. Alva har väl inte fällt eken? Det skulle hon ju egentligen göra.
Alva has MP not felled the.oak that should she MP actually do
Intended: “Alva did not fell the oak, I take it? She was supposed to do that.”

A maximal model including interactions between all four factors and random intercepts for participants and items yields the following insights: of the intended, main effects,

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

SPEECH ACT remains highly significant at $z = 6.4$; NEGATION is no longer significant at $z = 1.71$. Neither of the unintended effects are significant on their own. In fact, LEFT DISAMBIGUATION had no significant influence anywhere. However, DEONTICALLY PLAUSIBLE interacts with the other factors in the following way: in negated questions (overall), deontic plausibility improves the rating at $z = 1.86$. In the three-way interaction between deontic plausibility and the main effects, this effect reaches significance: NRQs are judged as significantly better if the questioned proposition is deontically plausible, with an effect size of $z = 3.19$. This interaction is curious because it means that PRQs were judged to be more acceptable if the proposition was *implausible*. Whether this is a real effect or a statistic anomaly must be left to future research.

To conclude, the post-hoc analysis shows that there was an unintended effect of deontic plausibility that, once accounted for, leaves NEGATION below the significance threshold. In other words, the main finding of the experiment is that *väl* always gives rise to an RQ reading, regardless of the questions's polarity. It does not give rise to HQ readings.

3.3.4 Discussion

The results indicate that Swedish *väl* and German *wohl* differ in their ability to a) derive rejecting questions on their own (*väl* can, *wohl* cannot), and b) to derive hypothesizing questions at all (*wohl* can, *väl* cannot). Interestingly, *väl* actually patterns with *doch* in its ability to give rise to RQ readings (presumably in combination with intonation in both languages). This complicates the relations of functional overlap between the two sets of modal particles in the two languages under consideration, since *doch* in turn is one of the functional equivalents of the Swedish modal particle *ju*, which marks its host proposition as self-evident and/or previously known to the addressee. Table 3.10 gives a graphical representation of the functional overlap between Swedish and German modal particles.⁴ \Box_{sp} stands for “the speaker considers the host proposition likely”, Contrast stands for “the CG status of the host proposition has recently been unsettled”, and $p \in \text{CG}$ is a straightforward CG management function.

It appears that *väl* necessarily conveys that the speaker of a question *väl(p)*? insists on the truth of *p* and/or points out that *p* contrasts with contextual evidence. This is a function that it shares with German *doch*. Since *doch* is the ‘minimal’ requirement (along with a specific intonation) for a German declarative to be read as a RQ, it might be expected that *ju* can also occur in Swedish NRQs with fronted negation. Corpus evidence like (16) is

⁴Krifka (p.c.) points out that the middle row for *wohl* is actually taken up by stressed *wohl* and combinations like *sehr wohl*.

⁵Note that this table is not to suggest that *nog* is a perfect functional equivalent of *wohl*: *nog*'s meaning also overlaps with that of *schon*.

3.3 Experiment IIIa: bias profile of Swedish questions containing *väl*

\square_{sp}	Contrast	$p \in CG$
väl	väl (ju)	ju
wohl		ja doch

Table 3.10: Meaning components of Swedish and German modal particles. Bracketed components are truly optional.

\square_{sp}	Contrast	Reportative
nog ⁵	NOG	visst
	VISST	
wohl	WOHL DOCH	wohl

Table 3.11: Meaning components of German and stressable Swedish modal particles.

suggestive that this is indeed the case:

- (16) *Context: the speaker is talking about a contract that was automatically prolonged by three years.*

Inte är det **ju** rimligt att ha tre års uppsägningstid?
 not is it MP reasonable to have three year's cancelation.period
 "Surely it is not reasonable to have a cancelation period of three years?"⁶

Since RQs are always uttered in contexts in which there is contextual evidence that contrasts with the expectations of the speaker, it can be assumed that the contrast-indicating meaning component of *ju* is always present if it occurs in RQs.

Note that the contrast-indicating meaning component of *väl* may also be optional, as *väl* can occur in polite questions that would be translated using *by any chance*, cf. (17) from Brandtler and Håkansson (2012), repeated from example (51) on page 54.

⁶<http://www.familjeliv.se/forum/thread/55428710-sparrservice/1>, accessed via Språkbanken.

3.4 Experiment IIIb: control study on the felicity of German PRQs

- (17) a. Inte har du sett Hedlund?
not have you seen Hedlund
“You haven’t seen Hedlund by any chance?”
b. Du har väl inte sett Hedlund?
you have MP not seen Hedlund
No separate translation given in Brandtler and Håkansson (2012)

No matter which analysis is chosen for negative suggesting questions with declarative syntax like these, note that their German equivalents can also contain high and obligatorily stressed negation, cf. (18). This suggests that these two question types, which seem irreconcilable at first glance, may be related, after all.

- (18) Du hast NICHT zufällig Hedlund gesehen?

To summarize: The central column in Table 3.10 – CONTRAST – appears to be the crucial component for deriving RQs, both in German and Swedish. German *doch* obligatorily comes with this meaning component and, as a consequence, *doch* is the only modal particle that is strictly required in the derivation of a RQ. In Swedish, both *väl* and *ju* can have this component – but for both particles, it appears to be optional; with their core meanings that are always present being closer to German *wohl* and *ja*, respectively. If and only if this contrast component is present, a RQ reading is possible. The reason why *väl* seems to be preferred in RQs over *ju* is that *väl* is question-forming in a way very similar to German *wohl* (which also explains *wohl*’s frequent co-occurrence in RQs), while *ju*’s meaning component of pointing out CG content is less strongly question-forming, if it is question-forming at all (with intonation alone marking the questionhood of the utterance). In other words, if the addressee of a *ju(p)*? RQ misses the contrast component and misjudges the intonation of the utterance, the RQ will be understood as a rejection (as can happen with a German *doch*-only RQ). This is not a possibility with a *väl(p)*? RQ, since *väl* always invites feedback the way that German *wohl* does.

3.4 Experiment IIIb: control study on the felicity of German PRQs

The German subpart of the experiment focuses on the perceived asymmetry between positive and negative RQs – positive RQs often being degraded when compared to negative RQs.

3.4 Experiment IIIb: control study on the felicity of German PRQs

3.4.1 Aim

Experiment IIIb aims to verify the intuition that PRQs are often degraded relative to NRQs, all other factors except the polarity of the question being equal. Recall the following contrast:

- (19) A and B are on vacation, where it has been raining for two weeks straight. A and B are sitting indoors, assuming that it is still raining, when A looks out of the window and sees that it is sunny.
- a. #Es regnet doch wohl?
it rains MP MP
“Surely it’s raining?”
 - b. Es scheint doch wohl nicht die Sonne?
it shines MP MP not the sun
“Surely the sun is not shining?”

None of the experimental items of Experiment IIIb included conclusive evidence as in (19), but PRQs intuitively feel degraded even in contexts with only suggestive evidence. Experiment IIIb served to establish a lower boundary on the felicity of PRQs in contexts with suggestive evidence.

3.4.2 Method

48 participants that were acquired through Prolific⁷ rated 24 experimental items on a 7-point scale, interspersed with 24 fillers. Every subject saw each item in only one experimental condition, for a total of 6 ratings per experimental condition per participant. Participants were paid £2.5 each. An average experimental session lasted 20 minutes. The experimental design was the same as that of Experiment IIIa. The items and fillers of both parts of Experiment III were translation equivalents.

A German example item for the condition with evidence for a positive proposition is given in (20). (20a) is a hypothesizing question, while (20b) is a negative rejecting question.

- (20) Context: *Anders, Elisabet und ihr erwachsener Sohn Karl räumen diese Woche ihr gemeinsames Haus auf. Anders und Elisabet kommen gerade vom Baumarkt nach Hause, als sie sehen, dass vor dem Gartentor Kisten aus dem Dachboden stehen. Elisabet sagt:*
- “Anders, Elisabet and their adult son Karl are cleaning their house this week. Anders and Elisabet are just returning from the the hardware store when they see there

⁷<http://prolific.ac>

3.4 Experiment IIIb: control study on the felicity of German PRQs

are boxes from the attic in front of the yard gate. Elisabet says:”

- a. Karl hat wohl den Dachboden aufgeräumt? Das sollte er doch eigentlich
 Karl has MP the attic cleaned that should he MP actually
 lassen.
 not.do
 “I guess Karl cleaned the attic? He was supposed to not do that.”
- b. Karl hat doch wohl nicht den Dachboden aufgeräumt? Das sollte er doch
 Karl has MP MP not the attic cleaned that should he MP
 eigentlich lassen.
 actually not.do
 “Surely Karl has not cleaned the attic? He was supposed to not do that.”

A German example for the other condition, in which there is evidence for a negative proposition is given in (21). (21a) is a negative HQ and (21b) is a positive RQ.

- (21) Context: *Anders, Elisabet und ihr erwachsener Sohn Karl räumen diese Woche ihr gemeinsames Haus auf. Anders und Elisabet kommen gerade vom Baumarkt nach Hause, als sie sehen, dass vor dem Gartentor nirgendwo eine Kiste aus dem Dachboden zu sehen ist. Elisabet sagt:*

“Anders, Elisabet and their adult son Karl are cleaning their house this week. Anders and Elisabet are just returning from the the hardware store when they see there are no boxes from the attic anywhere to be seen in front of the yard gate. Elisabet says:”

- a. Karl hat wohl den Dachboden nicht aufgeräumt? Das sollte er doch
 Karl has MP the attic not cleaned that should he MP
 eigentlich machen.
 actually do
 “I guess Karl has not cleaned the attic? He was supposed to do that.”
- b. Karl hat doch wohl den Dachboden aufgeräumt? Das sollte er doch
 Karl has MP MP the attic cleaned that should he MP
 eigentlich machen.
 actually do
 “Surely Karl has cleaned the attic? He was supposed to do that.”

3.4.3 Results

Table 3.12 summarizes the mean ratings of items within each of the four conditions. The means are provided for illustrative purposes only – they did not enter into the statistical analysis. At a first glance, note that items that contained negation were rated as more acceptable than positive items, regardless of speech act. Furthermore, RQs were rated as less

3.4 Experiment IIIb: control study on the felicity of German PRQs

acceptable than HQs, regardless of polarity.

POLARITY	SPEECH ACT	Rating
Positive	HQ	5.13
Negative	HQ	5.82
Positive	RQ	4.07
Negative	RQ	4.87

Table 3.12: Experiment IIIb: Mean ratings across participants

Figure 3.5 gives a graphical representation of the findings in the form of a violin plot, showing the number of responses in each rating level split up by condition. Overlaid are box plots, showing the medians, interquartile ranges and outliers of each condition.

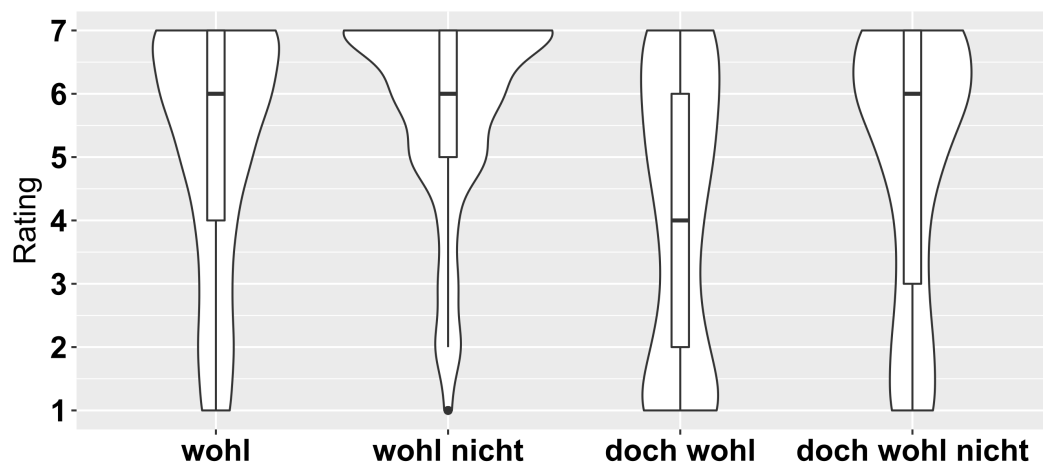


Figure 3.5: Experiment IIIb: Violin plot of scores

The statistical analysis was carried out by fitting cumulative link mixed models to the data (R package `ordinal`; Christensen 2015). The starting model included an interaction between the two factors NEGATION and SPEECH ACT, as well as random intercepts for participants and items. The model parameters of this model are given in Table 3.13. I take z -values greater than $|2|$ to indicate statistic significance. The most noteworthy result is that the predicted interaction between the two factors – negation was predicted to improve only RQs and to not interact with the ratings of *wohl*-Qs – turned out to be statistically insignificant. Instead, there were very robust main effects of each factor separately: the presence of negation improved both *wohl*-Qs and RQs, and the reading as an RQ decreased the rating of both positive and negative declaratives.

3.4 Experiment IIIb: control study on the felicity of German PRQs

	Estimate	SE	z	p
NEGATION	0.38	0.055	6.93	< 0.0001
SPEECH ACT	-0.51	0.055	-9.18	< 0.0001
Interaction	-0.01	0.055	-0.16	0.872

Table 3.13: Experiment IIIb: Parameters of the starting model, including an interaction between the factors

In fact, the interaction between the two factors was so insignificant that the best model included no interaction all. It also included a more elaborate random effect structure: random intercepts for subjects and items, and random by-subject slopes for NEGATION and SPEECH ACT, as well as random by-item slopes for SPEECH ACT. This random effect structure was the result of a step-by-step Anova comparison of increasingly complex models, beginning with the starting model given above. The model parameters of this improved model are given in 3.14. As can be seen, the magnitude of the z -values of the main effects decreased markedly (almost halving in the case of SPEECH ACT), but the main effects remained at a very high level of significance.

	Estimate	SE	z	p
NEGATION	0.48	0.09	5.40	< 0.0001
SPEECH ACT	-0.64	0.13	-4.91	< 0.0001

Table 3.14: Experiment IIIb: Parameters of the best model

3.4.4 Discussion

The most problematic aspect of the lack of an interaction between the factors NEGATION and SPEECH ACT can be restated as follows: in contexts in which there is evidence for a proposition ϕ , questions of the form *wohl*(ϕ) are rated as significantly more acceptable if ϕ is a negative proposition. This is a rather unexpected result. All other aspects of the findings were either predicted or are easily accommodated: the contrast in acceptability between NRQs (better) and PRQs (worse) was predicted; and the contrast between HQs (better) and RQs (worse) can be interpreted as RQs' being more marked both in terms of their form (they contain an additional modal particle compared to HQs) and their meaning (RQs narrowly indicate previous beliefs of the speaker; HQs do not).

The positive main effect of negation is particularly surprising given that negative ques-

3.4 Experiment IIIb: control study on the felicity of German PRQs

tions are usually described as more marked than positive questions – they are often harder to interpret, and they are felicitous in a proper subset of the contexts in which positive questions are felicitous. This suggests that the experimental setup may have induced an unintended main effect that boosted the rating of the negated items, reduced the rating of the positive items, or both. I see two possible sources of this unintended main effect: a) the deontic plausibility of the proposition that is questioned, and b) the nature of the left context of the questions. I will discuss these possibilities in turn.

3.4.4.1 Deontic plausibility

All of the target questions were followed by a comment by the same speaker that was either of the form *Das sollte er/sie doch eigentlich machen* (“He/she was supposed to do that, you know”, where “that” refers to the questioned proposition) or of the form *Das sollte er/sie doch eigentlich lassen* (“He/she was supposed to not do that, you know”, with the German sentence crucially containing no overt negation). These comments were supposed to clarify the speaker’s previous assumptions, in order to satisfy each question type’s epistemic bias. However, these continuations also modalized the entire context-question pair in a way that was often deontically problematic.

Take the following item as a starting point:

- (22) *Alexander und Ingrid unterhalten sich über den Fischteich in ihrem Garten und darüber, ob ihre Tochter Nina heute mal nach den Jungfischen geschaut hat. Ingrid sieht, dass im Schrank eine Packung Fischfutter offen ist. Sie fragt:
Alexander and Ingrid talk about the fishes in their garden, and about whether their daughter Nina has seen after them today. Ingrid sees an opened packet of fish fodder in the cupboard. She asks:*

Nina hat doch wohl nicht die Fische gefüttert? Das sollte sie doch
Nina has MP MP not the fish fed that should she MP
eigentlich lassen.

actually let.be

“Surely Nina did not feed the fish? She was supposed not to do that.”

This particular permutation of this item received the lowest median rating of all NRQ items of the experiment – 2, compared to the overall median rating of NRQ items of 6. What may have happened here to cause this low rating is that participants had trouble reconciling the fact that Nina was supposed to look after the fish today, as described in the left context, with the fact that Nina was supposed to do this while specifically not feeding the fish. Since feeding fish is arguably the prototypical activity involved in looking after fish, this clash of

3.4 Experiment IIIb: control study on the felicity of German PRQs

expectations may have caused those participants that were unable to enrich the context to rate the question in (22) as incoherent (a possible enrichment of the context could e.g. be that Nina was only supposed to clean the fish pond, and that the fish had already been fed). In short, the question in (22) is rather deontically implausible.

The experimental conditions that included questions about negative obligations, i.e. that ended in *Das sollte er/sie doch eigentlich lassen* and that were in danger of being deontically implausible, were the NRQ condition (shown above) and the positive *wohl*-Q – in other words, exactly the two conditions that performed more poorly than expected. An increase in ratings in those two conditions would, past a certain threshold, leave only the interaction of the two factors NEGATION and SPEECH ACT as statistically significant, which was the expected result.

Figure 3.6 on p. 98 gives a graphical representation of the potential influence of deontic plausibility on the ratings in each of the four experimental conditions. Note that only the *wohl* and *doch wohl nicht* conditions should show lower ratings in case of deontically implausible propositions. As can be seen, this is not the case: all four conditions show an increase in good ratings when the questioned proposition is deontically plausible. Furthermore, the *wohl nicht* condition additionally shows an increase in bad ratings, at the expense of rating levels 5 and 6.

It thus seems that deontic plausibility did have an effect on ratings, but possibly not (just) the expected effect. Before I turn to my post-hoc statistical assessment of item quality, I first discuss the other potentially confounding factor: the nature of the left context of the questions.

3.4.4.2 Licensing in the left context

Note that the question in (22) could probably have been improved – even for participants that did not think up an explanation for the perceived incongruence of the described situation – by outright stating – in the left context – the speaker's expectation regarding the obligation, e.g. with a sentence like *They both know that the fish have already been fed today and only expect Nina to clean the pond, if necessary*. In fact, a handful of items did include sentences like this. Most of these items included such an explicating sentence in all conditions, i.e. they primed positive and negative obligations equally. However, there was one item that included a sentence like this only in the PRQ and negative HQ conditions. (23) illustrates this item in the PRQ condition, with the potentially problematic context sentence highlighted in bold (the NRQ and positive *wohl*-Q conditions simply lacked this sentence, while providing evidence for the positive prejacent of the question):

3.4 Experiment IIIb: control study on the felicity of German PRQs

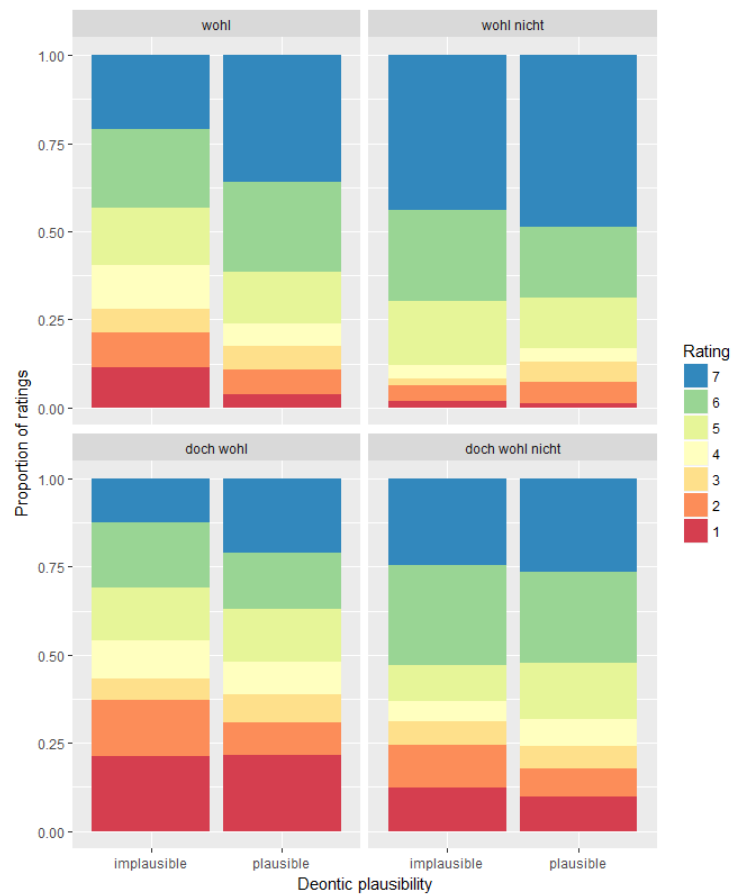


Figure 3.6: Experiment IIIb: Influence of deontic plausibility on ratings

- (23) David und Elsa, zwei Landschaftsgärtner, unterhalten sich über die Baumfällarbeiten im Park, und darüber, was ihre Kollegin Martina heute beigetragen hat. Die alte Eiche stand ganz oben auf der Liste der zu fällenden Bäume. Elsa sieht auf dem Stapel, auf dem gefälltes Holz gesammelt wird, keine frischen Eichenäste liegen. Sie fragt:

David and Elsa, two landscape gardeners, talk about the tree cuttings in the park, and what their colleague Martina has done today. The old oak stood high on the list of trees that should be felled. Elsa looks at the pile of felled trees and sees that there are no fresh oak branches on it. She asks:

Martina hat doch wohl die Eiche gefällt? Das sollte sie doch eigentlich
 Martina has MP MP the oak felled that should she MP actually
 machen.

do

“Surely Martina has felled the oak? She was supposed to do that.”

3.4 Experiment IIIb: control study on the felicity of German PRQs

While Martina’s positive obligation to fell the old oak can also be recovered from the right context of the question (like in all items), the bolded sentence primed participants to expect a question about a positive obligation that someone had failed to meet. This could potentially have reduced the “weirdness” factor even for PRQs (the particular item illustrated in (23) in fact had a median rating of 7, compared to PRQs’ overall median rating of 4), leading to an increase in ratings of PRQs and negative *wohl*-Qs that is unrelated to the actual factors being manipulated in the experimental setup. Since at least negative *wohl*-Qs seem to have performed better than expected (being rated significantly better than positive *wohl*-Qs), this potential confounding factor could also bear partial responsibility for the unexpected result. For the four items that included the disambiguating sentence in all four conditions, my intuition is that the presence of the sentence should lead to an increase in ratings across the board when compared to items that never have such a sentence.

Figure 3.7 on p. 100 illustrates the rating breakdown of the item in (23) (in all four conditions). It can be seen that the disambiguated conditions, *wohl nicht* and *doch wohl* indeed performed rather well, with over 50% of maximal ratings. However, since this is the only item with unbalanced disambiguation, drawing comparisons to items without disambiguation may not be valid.

Figure 3.8 on p. 101 gives a graphical representation of the influence of disambiguation in the left context, where “yes” represents those four items that included a disambiguating sentence in all four conditions and “no” all others. While there is a rather clear tendency for disambiguation to increase the proportion of maximal ratings, note that – in both RQ conditions in the lower two plots – this increase goes hand in hand with an increase in the proportion of minimal ratings. In other words, disambiguation leads to a polarization of the ratings of RQs, but not of *wohl*-Qs (where it leads to a straight increase of ratings). This is, once again, not the expected effect – a straight increase everywhere.

3.4.4.3 Post-hoc analysis of item quality

To test my intuitions about the potential hidden effects described in the last two sections, I explicitly included these effects in a post-hoc statistic analysis. I proceeded as follows: I coded all items with two additional factors, namely DEONTICALLYIMPLAUSIBLE and LEFTDISAMBIGUATION. The levels of the latter of those two factors were very unevenly distributed: only four items were LEFTDISAMBIGUATION:yes, while the other 20 were LEFTDISAMBIGUATION:no. In all four cases, all conditions were disambiguated.⁸ The other factor was harder to apply to the items, since it was more subjective. I decided to look

⁸I ignored the single item containing a disambiguating sentence only for the PRQ and negative *wohl*-Q, illustrated in (23), for the time being.

3.4 Experiment IIIb: control study on the felicity of German PRQs

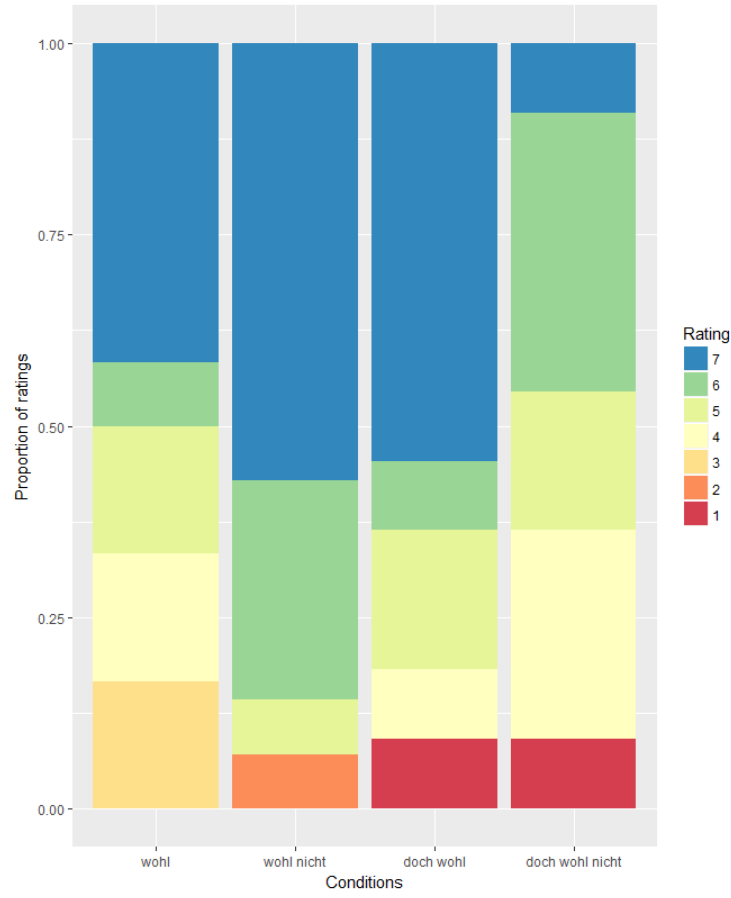


Figure 3.7: Experiment IIIb: Ratings in each condition for the item illustrated in (23)

at the NRQ condition of each item, and coded any item that struck me as at least as odd as (22) (i.e. the item where the negative obligation was to not feed fish) as DEONTICALLYIMPLAUSIBLE:yes – which ended up being 9 items. The other 15 items were coded as DEONTICALLYIMPLAUSIBLE:no.

I then fitted a maximal cumulative link mixed model that included the two intended factors NEGATION and SPEECHACT, the two unintended factors DEONTICALLYIMPLAUSIBLE and LEFTDISAMBIGUATION, and all interactions of all factors except for an interaction between the unintended factors – they were nested, with all LEFTDISAMBIGUATION:yes items being DEONTICALLYIMPLAUSIBLE:no, so an interaction was not possible. The parameters of this post-hoc model are given in Table 3.15

Concentrating on the intended effects first, we find the picture unchanged – both NEGATION and SPEECHACT are highly significant on their own, with a completely negligible interaction (row 5). Turning to the unintended effects, LEFTDISAMBIGUATION seems to

3.4 Experiment IIIb: control study on the felicity of German PRQs

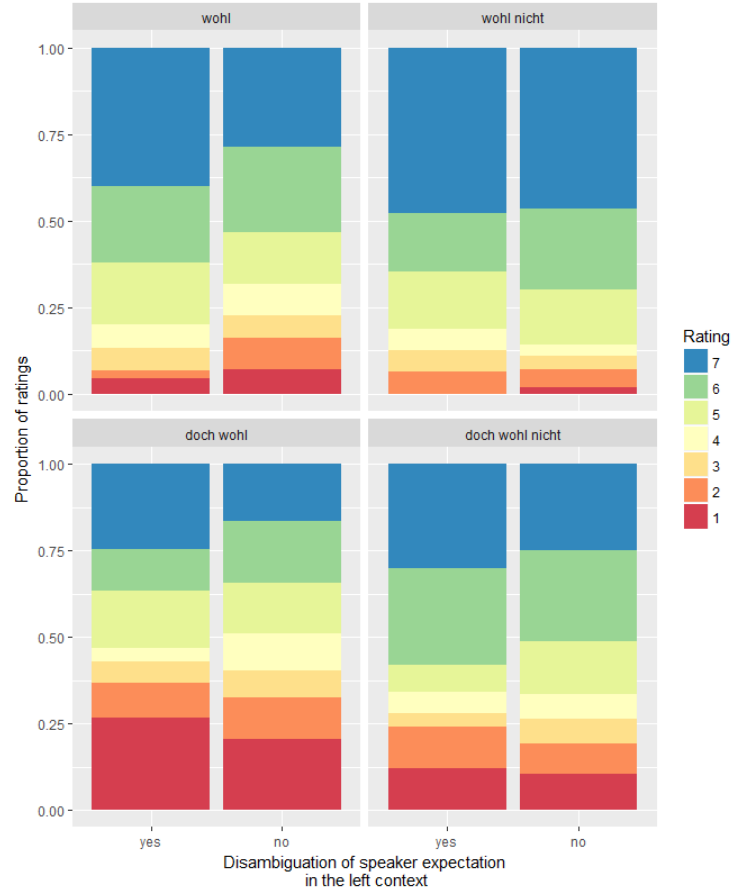


Figure 3.8: Experiment IIIb: Influence of disambiguation in the left context on ratings of items with disambiguation in all four conditions vs. in no condition

not have played a notable role in influencing ratings – its main effect is extremely small, as are all of the interactions it is involved in. Things look different when it comes to DEONTICALLYIMPLAUSIBLE. Its main effect decreases ratings, with an effect size roughly a quarter of the effect sizes of the intended factors. Furthermore, two of its interactions approach significance, namely the interaction with NEGATION and the three-way interaction with NEGATION and SPEECHACT.

Translated into prose, the results mean the following:

- Deontically implausible items tended to receive lower judgments overall, by an effect size of -0.15 .
- This effect was reversed for items containing negation: $0.43 - 0.15 + 0.11 = 0.39$. This captures the intuition that *wohl*(*p*) questions are harder to accommodate if the questioned proposition is deontically implausible.

3.5 Summary of experimental findings

	Estimate	SE	<i>z</i>	<i>p</i>
NEGATION: <i>yes</i>	0.43	0.08	5.25	< 0.0001
SPEECHACT: <i>RQ</i>	−0.51	−0.08	−6.06	< 0.0001
DEONTICALLYIMPLAUSIBLE: <i>yes</i>	−0.15	0.10	−1.47	0.14
LEFTDISAMBIGUATION: <i>yes</i>	0.02	0.13	0.14	0.89
NEG: <i>yes</i> × SPA: <i>RQ</i>	−0.02	0.08	−0.27	0.79
NEG: <i>yes</i> × DI: <i>yes</i>	0.11	0.06	1.87	0.06
SPA: <i>RQ</i> × DI: <i>yes</i>	0.02	0.06	0.40	0.69
NEG: <i>yes</i> × LD: <i>yes</i>	0.04	0.08	0.48	0.63
SPA: <i>RQ</i> × LD: <i>yes</i>	−0.01	0.08	−0.11	0.91
NEG: <i>yes</i> × SPA: <i>RQ</i> × DI: <i>yes</i>	−0.10	0.06	−1.65	0.09
NEG: <i>yes</i> × SPA: <i>RQ</i> × LD: <i>yes</i>	0.02	0.08	0.19	0.85

Table 3.15: Experiment IIIb: Parameters of the post hoc model

- However, not all negative items were improved, as the lowering of ratings was stronger for negative RQs: $0.43 - 0.51 - 0.15 - 0.02 + 0.11 + 0.02 - 0.10 = -0.22$. Again, this result is in line with my intuition that NRQs can be hard to accommodate when the questioned proposition is deontically implausible. If my interpretation of these results is correct, this coefficient also means that the rating of PRQs was indeed improved relative to the rating of NRQs in deontically plausible items.

My interpretation of the results is that deontic plausibility is solely responsible for the significant difference in ratings between positive and negative *wohl*-Qs. The difference does not stem from a semantic asymmetry between the two question polarities, but is an artifact of the influence of participants' world knowledge about the nature of obligations, which entered the picture because of the right context of the target questions.

The difference between positive and negative RQs, on the other hand, is grammatical. We saw that the direction of the effect of deontic plausibility was to improve PRQs' ratings and lower NRQs' ratings. Still, PRQs were rated significantly worse than NRQs. Even the unintended and uncontrolled influence of deontic plausibility was not enough to erase this difference.

3.5 Summary of experimental findings

The experiments yielded the following results:

- Experiment I showed that fronting the negative marker *inte* in Swedish declaratives that are used as questions changes the reading and bias profile of the question: with

3.5 Summary of experimental findings

low negation, it is a negative declarative question, while fronted negation yields a negative rejecting question (which requires contextual evidence for the unnegated prejacent of the question). Another way of marking negative RQs in Swedish is by using the modal particle *väl*. Both strategies can be combined to no ill effect.

- Experiment II showed that Swedish declaratives with fronted negation, which can be used both as rejections and as rejecting questions, show differences in their prosodic realization. Using the modal particles *ju* or *väl* to force a reading as a rejection or rejecting question, respectively, is not obligatory. It is an open issue whether the prosodic marking of RQs is similar or identical to the prosodic marking of declarative questions.
- Experiment III investigated both Swedish and German. For Swedish, it tested whether *väl* always occurs in rejecting questions, or whether it can also be used in hypothesizing questions. The results indicate that it can only occur in RQs. In other words, *väl* cannot be used as the translational equivalent of German *wohl*, which can also occur in hypothesizing questions that require contextual evidence for the prejacent of the question. For German, it tested whether the intuition that positive rejecting questions are often more marked and usually felicitous in fewer contexts than negative rejecting questions can be backed up statistically. It can – positive RQs received significantly lower ratings than negative RQs. Crucially, Swedish RQs showed the same pattern.

Taken together, the results impose the following requirements on any theory of rejecting questions. First and foremost, the theory should predict the asymmetry between positive and negative rejecting questions and be able to explain the surprising fact that a negative question type appears to be less marked and more felicitous in many contexts than a positive question type. Secondly, the theory must allow redundant marking of speech acts – Swedish RQs can be marked by *väl*, fronted negation, intonation, or any combination of these elements. Similarly, German RQs appear to minimally require the presence of *doch* and a special intonation to mark their questionhood, which can, however, also be marked by *wohl* and/or question tags. Finally, the prosody of (at least Swedish) RQs should be related to previous accounts of the prosody of declarative questions and of incredulity intonation (since RQs fall in between these two question types).

4 Theoretical evaluation

Seeliger and Repp (2018) propose that RQs be analyzed as containing the speech act operator given in (1). It takes a proposition q and a illocutionary modifier IM as its argument. In the cases under consideration, the illocutionary modifiers are VERUM in PRQs and FALSUM in NRQs. This speech act operator has two presuppositions, underlined in (1), that explicitly encode the RQ’s evidential and epistemic bias in the semantics of the question.

$$(1) \quad \llbracket \text{REJECTQ} \rrbracket = \lambda q \lambda \text{IM} : \underline{[\text{IM}(\neg q)]^{evid}} \& \underline{[\text{IM}(q)]^{epist}} . \{ \text{IM}(q), \neg \text{IM}(q) \}$$

This non-compositional analysis of *doch wohl nicht* in rejecting questions has three problems: i) it does not predict an asymmetry between positive and negative RQs, which Experiment III shows to be present at least in German (possibly also in Swedish); ii) the assumption of a regular question meaning of $\{ \text{IM}(q), \neg \text{IM}(q) \}$ makes wrong predictions concerning the meaning of answers to RQs; iii) it bakes evidential and epistemic bias into the meaning of RQs (in the form of a presupposition), when evidential bias can be analyzed as a result of the contribution of individual meaning components (like e.g. FALSUM) and epistemic bias as a speech-act-level conversational implicature. In the following section, I provide an analysis of RQs that has three features: i) PRQs and NRQs are not analyzed as perfect ‘mirror images’ of one another; ii) RQ meanings are monopolar; iii) evidential and epistemic bias are secondary effects of individual semantic components or implicatures.

4.1 Preliminaries

As the starting point of the discussion, let us take the observation made in Section 2.1.2.2 that any question must fulfill a pragmatic function in order to be felicitous: if the speaker’s individual biases and the contextual evidence agree in polarity – for example, if the speaker assumed/expected/hoped for p to be the case, and now sees that p is indeed the case – any question is infelicitous. This is because asking a question in such context violates the Maxim of Relevance: carrying out the speech act of asking whether $\{p, \neg p\}$ is irrelevant because the answer is already known, and carrying out the speech act of indicating previous belief in / hope that p is irrelevant because that information is useless. Trivial though it may

4.2 Characterizing the asymmetry between positive and negative rejecting questions

seem, a question must carry out a relevant speech act.

Let us also keep in mind that the speaker's individual bias (called *epistemic bias* by Sudo 2013) can, and probably should be, split up into epistemic, deontic, alethic modality. I will show that the difference between these modalities is not determined by the semantics of a question, but instead follows from pragmatic reasoning about the motives of the speaker. Evidential bias is not needed as an atomic part of the theory, either – it follows from the semantics of the question. When the evidential bias of a question is not fulfilled, what happens is that the meaning of the question is incompatible with any coherent speaker motives within the given context.

4.2 Characterizing the asymmetry between positive and negative rejecting questions

The main explanandum regarding rejecting questions is that PRQs are often degraded when compared to a NRQ within the same context. They are sometimes even outright infelicitous. Additionally, when we compare RQs of different polarities to polar questions containing the modal particle *etwa* (henceforth *etwa*-Qs), which share their bias profile with RQs, we find that *etwa*-Qs usually do not appear to exhibit an asymmetry between polarities.¹ To see this, consider the following examples in which the speaker is biased towards *p* (= the window is closed), but receives evidence for $\neg p$ (the window is open):

- (2) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office and see that the window is open. The speaker says:
- a. Es ist doch wohl nicht das Fenster auf?
it is MP MP not the window open
“Surely the window is not open?”
 - b. #Es ist doch wohl das Fenster zu?
it is MP MP the window closed
“Surely the window is closed?”
 - c. Ist etwa das Fenster auf?
is MP the window open?
“Is the window open (to my surprise)?”
 - d. Ist etwa das Fenster nicht zu?
is MP the window not closed
“Is the window not closed (to my surprise)?”

¹This observation needs experimental confirmation in further work.

4.2 Characterizing the asymmetry between positive and negative rejecting questions

- e. #Ist das Fenster auf?
is the window open
“Is the window open?”
- f. ?Ist das Fenster nicht zu?
is the window not closed
“Is the window not closed?”

Also consider the contrast between the fully infelicitous PPQ in (2e) and the only slightly strange INPQ in (2f). This contrast will serve as the starting point of the discussion later.

Next, we find that even NRQs can be infelicitous in the face of conclusive evidence. Consider the contrast between (3) and (4):

- (3) The speaker enters a train station and sees a billboard indicating that the train s/he intended to take left a couple of minutes ago. S/he says:
 - a. Der Zug ist doch wohl nicht schon abgefahren?
the train has MP MP not already departed
“Surely the train has not left yet?”
 - b. Ist der Zug etwa schon abgefahren?
has the train MP already departed
“Has the train already left (to my surprise)?”
- (4) The speaker sees the train s/he intended to take pull out of the station:
 - a. #Der Zug fährt doch wohl nicht schon ab?
the train leaves MP MP not already VERB PARTICLE
“Surely the train has not left yet?”
 - b. ??Fährt der Zug etwa schon ab?
leaves the train MP already VERB PARTICLE
“Has the train already left (to my surprise)?”

The following observations will have to be accounted for:

1. the difference between (2a) and (2b) (infelicity of PRQs relative to NRQs within the same context)
2. why there is no difference between (2c) and (2d) (no asymmetry of positive and negative *etwa*-Qs within the same context)
3. what degrades the NRQ in (4a) (seeing a train leave) relative to (3a) (getting potentially inaccurate information saying that a train already left) and (2a) (seeing an open window)

We will need one final observation to be able to account for all asymmetries: when the

contextual evidence is weak enough that it does not conclusively settle the question $\{p, \neg p\}$ in favor of either proposition, the asymmetries disappear and PRQs and PPQs are felicitous:

- (5) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office. The window is around a corner and not visible from the entrance. It is quite chilly in the office. The speaker says:
- a. Es ist doch wohl nicht das Fenster auf? (NRQ)
 - b. Es ist doch wohl das Fenster zu? (PRQ)
 - c. Ist etwa das Fenster auf? (pos. *etwa*-Q)
 - d. Ist etwa das Fenster nicht zu? (neg. *etwa*-Q)
 - e. Ist das Fenster auf? (PPQ)
 - f. Ist das Fenster nicht zu? (INPQ)

4.3 The pragmatics of rejecting questions

All of the observed asymmetries can be accounted for by using only a variation of the cooperative principle. The speaker of a question (i) *must* make a sensible pragmatic move and (ii) *should* mark this move appropriately. To see that we need both parts of this principle, let us concentrate on the the PPQs and INPQs in the examples under discussion, repeated in (6) and (7) for convenience:

- (6) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office and see that the window is open. The speaker says:
- a. #Ist das Fenster auf?
 - b. ?Ist das Fenster nicht zu?
- (7) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office. The window is around a corner and not visible from the entrance. It is quite chilly in the office. The speaker says:
- a. Ist das Fenster auf?
 - b. Ist das Fenster nicht zu?

The crucial difference between the contexts is that the question is already conclusively answered in (6), but still open in (7). The conversational move that is carried out by the speaker of the PPQ in (7a) is a request for information – the question is genuinely information-seeking. The INPQ in (7b) also requests information, but it does something else, besides: it indicates that the speaker had a specific expectation regarding the state of the world, namely

4.3 The pragmatics of rejecting questions

that the window would be closed. This indication, too, is a conversational move – and the speaker *must* make it if s/he was epistemically/buletically biased.

In the context in which the answer is already known, we see that PPQs can *only* request information. If this request is useless because it is redundant, the question is infelicitous, as in (6a). The INPQ in (6b), on the other hand, is ‘rescued’ by the additional information that the speaker expected $\neg p$ to be true. If the addressee reacts to this question in a cooperative manner, their answer will go beyond *no* and additionally either give reasons for why the window is open or bring up the speaker’s previous expectations as an issue. This is the central principle: as long as a question fulfills a pragmatic function, it can be felicitous.

We are now ready to account for observation 3 – why is a NRQ felicitous in the context in which the speaker might have missed their train, but infelicitous if the speaker knows that they missed their train? Again, the relevant examples are repeated here:

- (8) The speaker enters a train station and sees a billboard indicating that the train s/he intended to take left a couple of minutes ago. S/he says:
Der Zug ist doch wohl nicht schon abgefahren?
- (9) The speaker sees the train s/he intended to take pull out of the station:
#Der Zug fährt doch wohl nicht schon ab?

The felicitous NRQ in (8) is information-seeking. The speaker wants to know whether the world really does not conform to his/her buletic bias. Since there is a chance that the billboard may be inaccurate and/or that the train is running late, this is a felicitous discourse move. The infelicitous NRQ in (9), on the other hand, is uttered in a context in which it is certain that the world does not conform to the speaker’s buletic bias. The addressee cannot weigh in on the conflict between the speaker’s previous knowledge and/or wishes on the one hand and the speaker’s newly gained knowledge on the other hand because there is no possible way to reconcile the two.

The same explanation applies to the window context in which NRQs and PRQs are equally good, repeated here:

- (10) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office. The window is around a corner and not visible from the entrance. It is quite chilly in the office. The speaker says:
 - a. Es ist doch wohl nicht das Fenster auf?
 - b. Es ist doch wohl das Fenster zu?

There are alternative explanations available for the room’s temperature, and it is still possi-

ble for the window to be closed. The addressee can comment on the speaker's conflict.

What, then, is the difference between the window context – in which a NRQ can be used in the face of conclusive, visual evidence for p – and the train context – in which a NRQ cannot be used in the face of conclusive, visual evidence for p ? In the approach taken here, we should expect the difference to lie in the availability of coherent speaker motives. I suggest that the relevant speaker motive is an exhortation towards the addressee to supply reasons *why* the speaker should accept the truth of p . This exhortation arises in the window context, and fails to arise in the train context.

I believe that the reason for this is largely extra-linguistic and has to do with world knowledge. In the window context, the addressee can infer further discourse moves that arise because (among other things) there must be a reason why the window is open (so the addressee could supply this information), and it is still possible to change the state of the window (so the addressee could take the NRQ as an exhortation to close the window). I sketch this schematically in (11). I mark inferences that can be drawn from a question with \leadsto . Inferences that fail to arise are marked with \nrightarrow .

- (11) Es ist doch wohl nicht das Fenster auf?
 \leadsto Why should I accept that “the window is open” is true?
 \leadsto Why is the window open? / Did you open the window? / Go and close the window! / ...

In the train context, none of these further inferences arise – the reason why the train already left is that trains leave stations at scheduled times, and it is no longer possible to make the train not leave (certainly not to the addressee). The central meaning component of the NRQ that can be paraphrased as “Why should I accept that the train already left?” could simply be answered by saying “because you just saw it leave”. At the end of this hypothetical dialog, both interlocutors would be in exactly the same position as they were before the utterance of the NRQ, which is a waste of time and utterances. In sum, the speaker's lack of acceptance of p is uncooperative in this case because s/he *only* refuses to accept p without leaving any avenues of reply to the addressee.

- (12) Der Zug fährt doch wohl nicht schon ab?
 \nrightarrow Why should I accept that “the train already left” is true?
 \nrightarrow Why did the train already leave? / What are we going to do now? / Were we late? / ...

This brings us to observation 1 – in the window context, NRQs can be used in the face of conclusive evidence for p , but PRQs cannot be used when p is impossible. The explanation

sketched so far would predict that the inferences in (14) should be possible for (13b):

- (13) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office and see that the window is open. The speaker says:
- a. Es ist doch wohl nicht das Fenster auf?
 - b. #Es ist doch wohl das Fenster zu?
- (14) Es ist doch wohl das Fenster zu?
- Why should I accept that the window is not closed?
 - Why is the window not closed? / Did you open the window? / Go and close the window! / ...

However, these inferences apparently fail to arise. The PRQ has largely the same stubborn, insisting flavor that the infelicitous NRQ in the train context has. Let us take stock at this point: in this context, asking a question cannot be a request for information since the context conclusively settles the issue, so the PRQ's pragmatic function cannot be a request for information. We saw that an INPQ is largely fine in this context, and I argued that this was because the INPQ points out the speaker's previous belief in $\neg p$ in addition to asking $\{p, \neg p\}$; and the addressee can then comment on this previous belief. Crucially, a PRQ also points out a specific speaker bias – in this case, the expectation/hope/preference that the window be closed – but this does not seem to 'rescue' the PRQ. Finally, whatever explanation for the PRQ's degradation we come up with, we need to make sure that it does not (generally) apply to NRQs.

At this point, we must consider the semantics of RQs. Observation 2 on *etwa*-Qs will then also be accounted for.

4.4 The semantics of rejecting questions

I propose that the core contribution of a RQ to any dialog is a *hypothetical speech act*. The speaker uses a RQ to indicate a *preference* for carrying out another speech act – without actually carrying it out or promising to carry it out in a future step. The speaker brings up a proposition and indicates which speech act would 'go best with' that proposition. This embedded speech act can and does vary between RQs of different polarities. Concretely, I assume that PRQs are always hypothetical assertions, while NRQs can be hypothetical rejections – if the negation is high. The negation in rejections is high in the sense that it operates at the speech act level. The difference between the embedded speech acts will do the lion's share of accounting for observation 1. The account predicts that negative RQs

with low negation – hypothetical assertions of a negative proposition – pattern with positive RQs in terms of felicity.

A definition of the operator found in RQs, PREFER, is given in (15). Stated in words, PREFER indicates that of all the speech acts that are available to the speaker at the time of utterance, s/he considers the embedded speech act optimal. D_{aSpA} stands for the set of available speech acts, and $>_s$ is an irreflexive ordering relation indexed for the speaker. I sketch the concrete proposal for PRQs and NRQs with high negation in (16).

$$(15) \quad \llbracket \text{PREFER} \rrbracket = \lambda x. \exists x' \in D_{aSpA} [\forall x'' \in D_{aSpA} [x >_s x'']]$$

- (16) a. $\llbracket \text{PRQ} \rrbracket = \text{PREFER}(\text{ASSERT}(p))$
 b. $\llbracket \text{NRQ}_H \rrbracket = \text{PREFER}(\text{REJECT}(p))$

An utterance of a PRQ will then have the following discourse effects:

- (17) Discourse effects of a PRQ:
 Let us talk about p , which I would prefer to assert.
 \leadsto Something speaks against asserting p outright.
 \leadsto There is evidence for $\neg p$, but *asserting p must still be possible*.

An utterance of a NRQ with high negation has the following discourse effects:

- (18) Discourse effects of a NRQ_H :
 Let us talk about p , which I would prefer to reject.
 \leadsto Something speaks against rejecting p outright.
 \leadsto There is evidence for p , and *it is not necessary that p can still be rejected*.

Observation 1 can now be accounted for. There is an asymmetry between PRQs and NRQs with high negation – they contain different speech act operators – that leads to another difference that predicts that NRQs with high negation are better in more contexts than PRQs: the choice of the prejacent of the question, i.e. the propositional object at the lowest level of embedding. As (17) and (18) show, the prejacent of a PRQ and a NRQ with high negation is actually p in both cases. However, only in the case of NRQs with high negation does p agree with the polarity of the contextual evidence. With PRQs, the prejacent of the question clashes with the contextual evidence in terms of polarity. The key example is repeated below, annotated with the polarity of the contextual evidence *relative to each prejacent*.

- (19) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office and see that the window is open. The speaker

says:

- a. Es ist doch wohl nicht das Fenster auf? (Evidence: p)
- b. #Es ist doch wohl das Fenster zu? (Evidence: $\neg p$)

I believe that the contrast between the polarities of the prejacent of the two questions is responsible for the general degradation of PRQs. The speaker of (19b) does not indicate at all where s/he is sourcing the prejacent of the question from – the addressee must start a process of inference that the speaker is sourcing p from his/her list of assumptions/beliefs/wishes, and crucially that the speaker would still prefer asserting p . This process of inference is apparently allowed when it is still possible that p can be asserted in the future, but seemingly too obtuse and indirect when any future assertion of p can definitely be ruled out. NRQs do not require this process of inference, and as such they are less marked.

One potentially problematic aspect of this account is that it predicts the degradation of PRQs to be quite subtle (because the speaker is being slightly uncooperative by requiring a rather easy inferential step), when the facts are that PRQs that are used in the face of conclusive evidence are completely infelicitous. I have no answer to this possible objection, but I do want to point out that this account makes correct predictions when it comes to the scope of negation in NRQs, as shown next.

NRQs are ambiguous: they can contain high or low negation. This can be seen most clearly by inserting *auch* (“too”) into the prejacent of the question. If *auch* occurs inside the scope of negation (which it is not able to do in assertions), the negation is high. If *auch* occurs outside the scope of negation, the negation is low (cf. Repp 2009 on using *auch* as a diagnostic for the scope of negation):

- (20) a. Peter kommt doch wohl nicht auch? (NRQ_H)
- b. Peter kommt doch wohl auch nicht? (NRQ_L)

In the present approach, NRQs with low negation should look like (21a), and have the discourse effects given in (21b):

- (21) a. $\llbracket \text{NRQ}_L \rrbracket = \text{PREFER}(\text{ASSERT}(\neg p))$
- b. Discourse effects of a NRQ_L:
 Let us talk about $\neg p$, which I would prefer to assert.
 \leadsto Something speaks against asserting $\neg p$ outright.
 \leadsto There is evidence for p , but *asserting $\neg p$ must still be possible*.

Note that a NRQ with low negation embeds the same speech act operator as a PRQ, namely an assertion. Since I argued that the general difference in felicity between PRQs and NRQs

follows from the embedded speech act operator and ultimately from the choice of the pre-jacent of the question, the prediction is that the dividing line is between (hypothetically) rejecting RQs and asserting RQs, *not* necessarily between negated and non-negated RQs. In other words: NRQs with low negation should pattern with PRQs. I think this prediction is borne out. In the following context with conclusive visual evidence, the underlined verbs serve to satisfy the presupposition of *auch*:

- (22) The speaker expects Peter and Mary not to come to his party. Mary already showed up. The speaker looks out of the window and sees Peter arriving.

Peter kommt doch wohl nicht auch? (NRQ_H)

- (23) The speaker expects Peter and Mary not to come to his party. Mary already canceled. The speaker looks out of the window and sees Peter arriving.

#Peter kommt doch wohl auch nicht? (NRQ_L)

(22) brings up p and asks for possible ways of rejecting it (\sim ‘why should I accept p ?’, and under-determined further inferences like ‘what changed?’ or ‘I dislike Peter’), while (23) brings up $\neg p$ and asks for possible ways of asserting it – which is no longer possible. An inference of ‘why should I accept p ?’ is blocked because the speaker did not choose to bring up p .

Finally, how do we account for observation 2, i.e. the observation that *etwa*-Qs of opposite polarities generally do not exhibit the kind of asymmetry observed in RQs? I assume that *etwa* is used by the speaker to indicate that they are relaxing the preparatory conditions for the speech act that is hosting *etwa*, i.e. that the speaker is ‘allowing’ themselves to carry out the speech act containing *etwa* – they are indicating that there is something that speaks against uttering the question without *etwa*. Furthermore, negation in *etwa*-Qs cannot be high, so we do not expect an asymmetry between the two polarities of *etwa*-Qs to exist:

- (24) *Kommt Peter etwa nicht auch?

Intended: “Isn’t Peter coming, too (to my surprise?)”

The core pragmatic effect that *etwa* has in questions, as a result of this relaxing of preparatory conditions, is that it is implicated that the speaker did not expect to have to ask the host question. The main (possibly only) reason that a speaker can have for the assumption that a specific question Q will not have to be asked is that the speaker considered Q to be answered, or that the answer is not relevant. Let us now go back to the relevant examples, repeated here:

- (25) The speaker expects the window in her office to be closed because it is cold outside. She and the addressee enter the office and see that the window is open. The speaker says:
- a. Ist etwa das Fenster auf?
 - b. Ist etwa das Fenster nicht zu?
- (26) The speaker enters a train station and sees a billboard indicating that the train s/he intended to take left a couple of minutes ago. S/he says:
Ist der Zug etwa schon abgefahren?
- (27) The speaker sees the train s/he intended to take pull out of the station:
??Fährt der Zug etwa schon ab?

The reason for the degradation of (27) is again very general – the question is not information-seeking, and the addressee cannot really make any useful follow-up contributions.² (26) is fine because the speaker indicates that they did not expect to see the information on the billboard, but since it's still possible that the train is reachable, the question is information-seeking.

In (25), the pragmatic effect is the following: the questions cannot be information-seeking, but the speaker indicates that s/he considered the question of whether the window is open or closed to be settled, specifically that the window is closed / not open. With both questions, s/he picks up the contextual evidence as the prejacent of the question. The only difference is the choice of the predicate within the prejacent – “open” vs. “closed”. Choosing “open” emphasises that the contextual evidence ‘unsettles’ the previously settled question (i.e. the speaker assumed/hoped/expected the window to be closed), while choosing “closed” emphasises the original expected answer. Put more simply, positive and negative *etwa*-Qs with prejacent of opposite polarities mean the same thing. This may seem trivial, but recall that this is not the case for PRQs and NRQs with high negation.

In both cases, a cooperative addressee will once again go beyond a simple *yes*-answer, and instead help resolve the speaker's conflict – e.g. by providing reasons for why the window is open, answering who opened it, closing the window, etc. This additional pragmatic effect is the same as that observed with RQs, suggesting that this is a very general principle.

²Compare that even an exclamation, which I assume does not even directly exhort the addressee to do anything, is strange in this context:

(i) ??Der Zug ist ja schon abgefahren!

4.4.1 Summary

I repeat here the explananda set out at the beginning, and the answers I gave for them:

1. Why are PRQs often infelicitous relative to NRQs within the same context?
 2. Why is there no difference between positive and negative *etwa*-Qs within the same context?
 3. What degrades the NRQ in (4a) (seeing a train leave) relative to (3a) (getting potentially inaccurate information saying that a train already left) and (2a) (seeing an open window)?
-
1. PRQs are hypothetical assertions, while NRQs can be hypothetical assertions of a negative proposition or hypothetical rejections of a positive proposition. Hypothetical assertions of a proposition always occur in contexts in which there is evidence *against* that proposition, which forces the addressee to begin an inferential process to find out where the prejacent is sourced from. NRQs with high negation, on the other hand, source their prejacent from mutually available contextual evidence, so they are less marked.
 2. Positive and negative *etwa*-Qs (with prejacent of opposite polarities) are completely symmetrical and mean the same thing. They are predicted to pattern alike in all contexts.
 3. When no reasonable continuations are available to the addressee, any question becomes infelicitous. In the train context, the optimal continuation available to the addressee is probably “what do you expect me to say *or* do?!”. It is uncooperative to put other people into such a position.

4.5 A compositional analysis of Swedish rejecting questions

In the last section, I claimed that RQs contain the speech act modifier PREFER, which indicates that the speaker would prefer to carry out the embedded speech act, but is unable to, for an underspecified reason. I based this claim exclusively on German RQs. In the following section, I will apply this theory to Swedish RQs and attempt to identify which of the characteristic elements of RQs corresponds to which operator in the semantics.

In the case of Swedish rejecting questions, we need to account for three characteristic elements: fronting of negation, *väl*, and intonation. Fronting of negation on its own turns

4.5 A compositional analysis of Swedish rejecting questions

a negative assertion into a rejection – it can no longer be uttered out-of-the-blue, but must instead react to an interlocutor's assertion of the rejected proposition.

(28) Fronting of negation

- a. Preparatory conditions for fronting of negation in Swedish:
p is relevant (likely to be true, or has been asserted/presupposed)
- b. Discourse effects of fronting of negation in Swedish:
S indicates that *p* should not be in CG (this can be either an actual rejection or a rejecting question)

The modal particle *väl* on its own has a question-forming (or at least answer-inviting) function. Crucially, Experiment 3 has shown that *väl* appears to require contrast in the context – if it occurs in a positive declarative denoting *p*, then *p* must not be likely. Whether or not *väl* can occur in truly neutral contexts is debatable, given that truly neutral contexts with respect to a questioned proposition may not exist. The specific function of *väl* seems to be that the speaker indicates that s/he asks for evidence that supports the proposition that *väl* occurs in (though a slight modification is coming up):

(29) *väl*

- a. Preparatory conditions of an utterance of *väl(p)*:
 $\neg p$ is likely
- b. Discourse effects of *väl*:
S asks for support of *p*

If we combine fronted negation and *väl* straightforwardly, we find that their combination should be infelicitous or even ungrammatical. Fronted negation rejects its host proposition, while *väl* asks for support for its host proposition. This is contradictory.

(30) Combination of FN and *väl*

- a. Preparatory conditions:
p is relevant & $\neg p$ is likely
- b. Discourse effects:
S indicates that *p* should not be in CG & S asks for support of *p* \Rightarrow This should be infelicitous!

It may be necessary to 'shift' *väl* one level up from the propositional level, and allow it to embed speech acts. It would then indicate that the speaker prefers the embedded speech act over other alternatives, and asks for support that allows him/her – in a future step – to carry

4.5 A compositional analysis of Swedish rejecting questions

out this speech act, after all:

- (31) Discourse effects of *väl*, amended
- a. S asks for support for carrying out a speech act³

The combination of *väl* and fronted negation is now workable, as long as *väl* outscopes fronted negation. On this view, a declarative containing both *väl* and fronted negation is something like a hypothetical rejection. This is different from a conditional rejection – i.e. a rejection that goes into effect once the addressee rejects first. A hypothetical rejection never commits the speaker to anything other than the preference for rejecting *p* over not rejecting *p*.

- (32) Combination of FN and *väl*, amended
- a. S asks for support for carrying out the speech act of indicating that *p* should not be in CG (\sim there are reasons why S is unable to actually carry out this speech act, such as contextual evidence for *p*)

We find an important difference between actual and hypothetical rejections (i.e. rejecting questions): RQs can react to contextual evidence that has not been asserted by any discourse participant, while actual rejections require that the rejected proposition has been asserted or presupposed by the addressee (or possibly another discourse participant):

- (33) Discourse effect of a rejection (using fronted negation, although this may not be important)
- a. S indicates that *p* should not be in CG (\sim S has a reason for carrying out this speech act, such as addressee endorsement of *p*. Contextual evidence for *p* is not sufficient; this is only possible with rejecting questions.)

This difference may result from the aims that speakers pursue when uttering an actual or hypothetical rejection: actual rejections aim to convince the addressee to give up a discourse commitment in order to resolve a CG crisis. A hypothetical rejection, on the other hand, intuitively aims to convince the *speaker* that an actual rejection may still be possible at a future point in time – essentially, the speaker only asks the addressee to comment on the speaker's stated preference, e.g. whether the addressee knows of a way to make this

³If this embeds an assertion instead of a rejection, the contrastive meaning component of *väl* may be left unspecified – asking for support for asserting *p* implicates that there are reasons for being unable to outright assert *p*, such as contextual evidence for $\neg p$. This means that the preparatory conditions in (29a) may need revision, as well. This in turn might solve the problem that the preparatory conditions of the atomic elements seem contradictory.

4.5 A compositional analysis of Swedish rejecting questions

preference still fulfillable. This may also explain why RQs are usually highly degraded when they take up an outright assertion by the addressee verbatim (plus any required modal particles). I illustrate this for German in (34).

- (34) a. S sees A smoking a cigarette.
 S: Du hast doch wohl nicht mit dem Rauchen angefangen?
 b. A: Ich hätte nicht mit dem Rauchen anfangen sollen.
 S: ??Du hast doch wohl nicht mit dem Rauchen angefangen?⁴

This difference in which discourse participant ends up being convinced following a successful utterance must be contributed by *väl* or intonation – a successful assertion of *p* ends with the addressee being convinced of the truth of *p*, just as a successful rejection of *p* ends with the addressee convinced of the falsity of *p*. A successful utterance of *väl(p)* (or of *p* with question intonation) ends with the speaker being convinced of *p*. The difference between *väl* and question intonation is that *väl* derives PRQs, with which the speaker conveys that s/he would like to carry out a specific speech act, but is unable to; while question intonation derives DQs, with which the speaker initiates commitment as a dependent, i.e. DQs initiate a prospective speech act directly. This should represent a lower threshold for being convinced than RQs have.

The relevant speech act that is embedded under *väl* is modified by fronting of negation – low negation (without *väl*) occurs in assertions; high negation occurs in rejecting speech acts. Let us look at the various combinations of position of negation and absence and presence of question-markers in turn.

- (35) (Förresten,) Peter kommer inte.
 by.the.way Peter comes not
 “(By the way,) Peter is not coming.”

(35) is a negative assertion and compatible with topic-changing markers like “förresten” (*by the way*). It seeks to inform the addressee that a negative proposition is true. If negation is low, but the declarative is marked as a question, we have to differentiate between two strategies of question-marking: *väl* (36) and question intonation (37).

- (36) Peter kommer väl inte?
 Peter comes MP not
 “Surely Peter is not coming?”

The translation as an English RQ shows that (36) can only be used in contexts in which

⁴VERUM intonation on the finite verb improves this question in my intuition. I leave this issue unaddressed.

4.5 A compositional analysis of Swedish rejecting questions

it is likely or necessary that Peter is coming, i.e. with evidence for p . In other words, *väl* can be used to ‘insist’ on the truth of propositions whose polarity is at odds with that of the contextual evidence. This stands in contrast to a declarative that is marked as a question only by ways of intonation:

- (37) Peter kommer inte?
Peter comes not
“Peter is not coming?”

This question necessarily double-checks that Peter is not coming – $\neg p$. It requires contextual evidence to that effect, and it must be possible for the addressee to commit to the assertion “that Peter is not coming” (cf. Gunlogson 2003, 2008 on contexts in which declarative questions cannot be used because the addressee cannot felicitously commit).

- (38) (#Förresten,) inte kommer Peter.
by.the.way not comes Peter
“(But) Peter is not coming.”

When negation is fronted like in (38) and there are no question markers, the utterance must be a rejection of an immediately preceding discourse move that asserted or presupposed p , hence the infelicity of topic-changing markers like “förresten” (*by the way*). The aim of such a rejection is to get the addressee to agree that p should not be in CG. When such an utterance also contains *väl*, it can no longer be an outright rejection:

- (39) Inte kommer väl Peter?
not comes MP Peter
“Surely Peter is not coming?”

Whether or not a sentence like (39) can or must also be marked as a question by means of intonation is a question I will have to leave to further research. What is clear, however, is that *väl* is sufficient to turn this declarative containing fronted negation into a question. Specifically, the result is a rejecting question whose function is identical to that of (36), the NRQ with low negation. It is also possible to mark an utterance containing fronted negation as a question only by means of intonation, which was shown by Experiment 2:

- (40) Inte kommer Peter?
not comes Peter
“Surely Peter is not coming?”

Whether the specific prosodic marking of (40) (viz. higher pitch maxima on the lexical accents regardless of where focus falls) is identical to the prosodic marking of regular declar-

4.5 A compositional analysis of Swedish rejecting questions

ative questions must also be left open for future research. It is, however, clear that (40) can only be used as a NRQ, not as a NDQ (i.e. only in contexts with evidence for p , not in contexts with evidence for $\neg p$).

Let us zoom in on the difference between questions derived by way of intonation – DQs – and questions derived by way of *väl* – RQs. For that purpose, let us put aside negation for the moment, in order to simplify the picture. The main difference between a PDQ like (41) and a PRQ like (42), besides the obvious difference in their evidential biases, lies in their respective discourse effects.

- (41) Peter kommer?
Peter comes
“Peter is coming?”
- (42) Peter kommer väl?
Peter comes MP
“Surely Peter is coming?”

The PDQ in (41) double-checks whether adding p to the speaker’s (dependent) discourse commitments is indeed the right move. Once the speaker receives a positive answer, the default discourse effect is that the speaker is committed to p as a dependent. The PRQ, on the other hand, only indicates a preference for a hypothetical discourse move (asserting that Peter is coming) without actually carrying out this move *or* promising any future (default) moves. Assuming that the speaker receives a positive answer, the conversation is still in a state of crisis, because the reason for the speaker’s non-assertion is still left unresolved. This reason still needs to be negotiated. In a way, the speaker only commits to not being able to commit to a desired speech act, and if there is in fact a way to commit to that speech act, an additional acknowledgment of that fact is needed.

With this approach, declarative questions are direct exhortations towards the addressee to decide on the speaker’s commitments. Rejecting questions, on the other hand, are entirely meta-level speech acts that never directly result in a change of discourse commitments. Turning to a comparison of Swedish and German, *väl* must equal *doch* in this approach; and intonation must equal *wohl* – which leads to a prediction: “Peter kommer väl inte” should be ambiguous between “Peter kommer väl inte också” and “Peter kommer väl inte heller”, just like German shows an ambiguity between “Peter kommt doch nicht auch?” and “Peter kommt doch auch nicht?”. This does not, however, seem to be the case – the Språkbanken corpus⁵ is overwhelmingly in favor of the latter option, i.e. with ‘low’ negation. This is interesting, given that it implies that fronting of negation is *necessary* for *också* (“too”) to

⁵<http://spraakbanken.gu.se>

4.5 A compositional analysis of Swedish rejecting questions

be able to occur under negation (though its negative polar counterpart *heller* “either” is still grammatical).

However, the results from Experiment 1 suggest yet another picture: the overall results were that, in order to derive a reading of a declarative as an RQ, presence of *väl* is required if negation is low, but does not make a difference if negation is fronted. Crucially, two of the items contained positive polarity items (“*också*”, too and *redan*, “already”). For these two items, the general tendency seems to be reversed (note that these results are not statistically reliable due to the low number of subjects within each condition): if negation is low, *väl* does not make a difference and ratings are high in both conditions; if negation is high, presence of *väl* leads to an increase in ratings. In other words, we have the following contrast:

- (43) a. ??Inte kommer han också?
not comes he too
“Surely he is not coming, too?”
b. Inte kommer han väl också?
not comes he MP too
“Surely he is not coming, too?”

The results in the condition with low negation – high ratings regardless of *väl* – are interesting given that the string “*väl inte också*” is virtually absent from the corpus, i.e. it might be expected to be ungrammatical (*especially* in the condition without *väl*, which should only have a reading as a DQ with outer negation, which is a reading that – at least in German – does not exist). However, the results are so unreliable, with so few subjects in each condition, that it is probably better to disregard them. The degradation of (43a) may also be due to the fact that so-called ‘additive negation’, which only licenses “*heller*”, is numerically more frequent in Standard Swedish (as opposed to Finland Swedish and Northern Swedish), and frequency effects make an in-and-of-itself grammatical sentence sound ‘odd’. The presence of *väl* might then disambiguate a question with fronted negation away from a reading as additive negation.

Returning to the comparison of Swedish and German RQs, the picture for German looks as follows: the minimal requirement for high negation to be able to occur in declaratives is *doch*:

- (44) a. *Peter kommt nicht auch?
b. Peter kommt doch nicht auch?

On the other hand, *wohl* neither enables nor disables the possibility of high negation:

4.5 A compositional analysis of Swedish rejecting questions

- (45) a. *Peter kommt wohl nicht auch?
b. Peter kommt doch wohl nicht auch?

I propose the following core functions for the two modal particles, at least in their occurrence in rejecting questions: *doch* has a CG managing function – an utterance of *doch(p)* conveys that $p \in \text{CG}$ – which provides a level above the proposition for high negation to negate.⁶ Concretely, the negation in (44b) and (45b) denies that p is in or should be in CG – $p \notin \text{CG}$. An utterance of *wohl(p)*, on the other hand, conveys an inability on the part of the speaker to commit to p . Inability to commit can also be conveyed using other means, for example using question tags:

- (46) a. Peter kommt, oder?
b. Peter kommt wohl?

In both questions in (46), the speaker presents him/herself as willing, but unable to commit to p . Crucially, I assume that these questions require that there be no evidence for $\neg p$. If such evidence exists, *doch* has to be used:

- (47) a. Peter kommt doch, oder?
b. Peter kommt doch wohl, oder?

Drawing comparisons to Swedish, we find that no clear one-to-one correspondences between the various particles and/or high negation exist. Let us continue to assume that *väl*, in its primary function as a question-forming (or at least answer-inviting) particle, conveys inability to commit. The minimal component for deriving positive rejecting questions in Swedish is also *väl*, as indicated by the results of Experiment 3, in which declaratives containing *väl* were degraded in contexts with evidence of the same polarity as the prejacent of the question. However, *väl* can, in fact, be used in neutral contexts. In other words, (48) seems to correspond to both (46a) and to (47a) (German declaratives with a question tag and with or without *doch*):

- (48) Peter kommer väl?
Peter comes MP
“Peter is coming, isn’t he?”
“Surely Peter is coming?”

Apparently, *väl* combines functions of *doch* and *wohl*. At this point, a comparison to regular

⁶An open problem is that this CG managing function is shared with *ja*, which does not enable high negation, however. This suggests that it is actually the contrast-indicating function of *doch* that is responsible for the occurrence of high negation in declaratives.

4.5 A compositional analysis of Swedish rejecting questions

declarative questions may be illuminating. In both German and Swedish, a regular DQ conveys that the speaker of the question is willing and able to commit to the prejacent of the question as a dependent, i.e. the speaker's commitment is contingent on the addressee's prior commitment. Let us represent this schematically, where CC_s stands for conditional commitment on the part of the speaker:

- (49) Discourse requirements of an utterance of $DQ(p)$: $\diamond CC_s(p)$

An utterance of $väl(p)$, on the other hand, conveys genuine inability to commit to the prejacent of the question. In other words, *väl* appears to introduce or require negation at some level:

- (50) Discourse requirements of an utterance of $väl(p)$: $\neg \diamond CC_s(p)$

I suggest that this difference between DQs and declaratives containing *väl* is either responsible for or a consequence of the question's evidential bias: if the speaker conveys that it is possible for him/her to commit to p as a dependent, it must be possible for p to be true – i.e. DQs require contextual evidence for their prejacent. On the other hand, if the speaker conveys that it is not possible for him/her to commit to p , there must be some reason for that – usually, there is evidence for $\neg p$, or at least an absence of evidence for p that the speaker portrays as evidence against p .

It is possible to account for the bias introduced by *väl* both in neutral and in contrastive contexts by looking at the speaker's choice of prejacent. Specifically, a DQ requires that the prejacent match the mutually available contextual evidence. On the other hand, *väl* either requires an absence of contextual evidence (in which case *väl* derives the counterpart of German tag questions without any particles) or that the mutually available contextual evidence be the negation of the prejacent (in which case *väl* derives the counterpart of German PRQs). An utterance of a DQ then only allows the conclusion that the speaker did not know or assume that the prejacent of the question is true. With *väl*, a process of inference is started: the speaker chooses a prejacent that is not mutually available, so the prejacent must be of interest to the speaker somehow, so the speaker probably assumed (or pretends to assume) the prejacent to be true.

Let us assume for the sake of concreteness that the inability to commit that is conveyed by *väl* specifically indicates a preference on the part of the speaker without conditionally committing to any proposition. An utterance of $väl(p)$ means that the speaker ranks all p worlds (or developments of the current discourse into p commitment spaces) over $\neg p$ worlds, without actually taking any action to move the discourse into a p direction. This stands in contrast to DQs, with which the speaker requests the addressee to confirm that the

4.5 A compositional analysis of Swedish rejecting questions

discourse is indeed moving into a p direction – namely, by asserting p .

If we assume that an indication of preference for p (at least one using *väl*) is only felicitous if the context itself does not favor the truth of p – since otherwise the utterance would not be relevant or informative – then we can account for the asymmetry in felicity between PRQs and NRQs. An utterance of *väl*(p) requires that there be suggestive evidence for $\neg p$.⁷ An utterance of *väl*($\neg p$) requires that there be (suggestive or conclusive) evidence for $\neg\neg p$, i.e. for p . While a double negation should be more marked, it also allows the addressee to more easily infer where the speaker is sourcing the prejacent of the question from – from contextual evidence. PRQs require the addressee to take an additional inferential step, namely that the speaker is choosing to ‘talk about’ p in the face of evidence for $\neg p$ because s/he has some sort of interest in p being true.

Switching back to German for a moment, we can describe the various question-forming operations and the speaker’s relative (un)willingness to commit as follows:

- (51)
- a. DQ(p): S is unable to properly commit to p but is willing to commit as a dependent (if the addressee commits as a source).
 - b. “ p , oder?”: S is unable to properly commit to p but is willing to commit as a source (if the addressee commits as a co-source).
 - c. “doch wohl nicht p ?”: S is unable to commit to $\neg p$ at all, but would prefer it over accepting p .
 - d. “doch wohl p ?”: S is unable to commit to p at all, but would prefer it over accepting $\neg p$.

This is presumably why RQs are often followed by answers that attempt to convince the speaker, or at least provide reasons for the truth of the dispreferred proposition; while DQs and tag questions directly navigate speaker commitment, i.e. they invite direct *yes* or *no* answers.

For Swedish, we find the following classification. “Prefer:” is short-hand for the meta-level speech act of indicating a preference for a speech act, which triggers the implicature that it is not possible for the speaker to carry out this speech act at all, even as a dependent (which triggers the additional implicature that there is evidence that rules out performing this speech act). “A” stands for assertion, and “P” and “N” for the two surface polarities.

⁷I ignore presumably neutral contexts for now – it is possible that the speaker is pretending that the absence of evidence for p is evidence for $\neg p$ in these cases.

4.5 A compositional analysis of Swedish rejecting questions

Intonation	Negation	<i>väl</i>	Abbreviation	Speaker commitment	Example
Decl	None	absent	PA	Source: p	Peter kommer.
Decl	Low	absent	NA	Source: $\neg p$	Peter kommer inte.
Q	None	absent	PDQ	Dependent: p	Peter kommer?
Q	Low	absent	NDQ	Dependent: $\neg p$	Peter kommer inte?
Decl	Fronted	absent	Rej	Source: $p \notin \text{CG}$	Inte kommer Peter.
Q	Fronted	absent	NRQ _H	Prefer: $p \notin \text{CG}$	Inte kommer Peter?
Decl/Q	None	present	PRQ	Prefer: p	Peter kommer väl?
Decl/Q	Low	present	NRQ _L	Prefer: $\neg p$	Peter kommer väl inte?
Decl/Q	Fronted	present	NRQ _H	Prefer: $p \notin \text{CG}$	Inte kommer väl Peter?

Question intonation on its own only signals that the speaker is unable to act as a source for the questioned proposition. This captures the contrast between (positive and negative) assertions and (positive and negative) declarative questions. It must be assumed that this effect of question intonation can be ‘overridden’ by stronger cues, such as fronting of negation or presence of *väl*, since those rows of the table are even stronger non-assertions than the DQ rows.

Experiment II investigated the two rows in which negation is fronted, and only intonation differentiates between the two readings as a rejection and as a rejecting question. The experiment showed that there is indeed a prosodic difference. I base the hypothesis that a bare NRQ, even without *väl*, expresses only a preference for excluding p from CG – and not a dependent commitment to excluding it, as might be expected from the contribution of intonation alone – on the results of Experiment I, which showed that questions with low negation and questions with fronted negation show different evidential biases: the former are NDQs, the latter are NRQs.

Another way of indicating a preference for a speech act without actually carrying it out, other than intonation, is using *väl*: the speaker uses it to ask for support for carrying out the speech act of asserting p (\leadsto there is evidence for $\neg p \leadsto$ the speaker is also unwilling to accept this evidence, since otherwise s/he would have done so). The last row shows that the two strategies for strong non-commitment, *väl* and fronted negation (plus intonation) can be combined to no ill effect.

5 Conclusion and Outlook

This thesis investigated rejecting questions – a strongly biased type of question with declarative syntax. They share this syntax with declarative questions and the anchor of tag questions. They differ markedly from these other question types in the values of the biases that they introduce. In the case of RQs, question bias is not necessary as an atomic part of the pragmatic theory. The bias values follow from the function(s) of RQs. In other words, it is not necessary to have RQs' biases be a part of their semantics as was done in Seeliger and Repp (2018).

RQs show a previously unaccounted for asymmetry between positive and negative questions – negative RQs appear to be less marked, and felicitous in more contexts than positive RQs. While an asymmetry between two question polarities is not unexpected, this particular asymmetry is the reverse of that of polar questions, where positive questions are less marked. I have argued in this thesis that the asymmetry between positive RQs and negative RQs in terms of the contexts in which they are felicitous is actually an asymmetry between rejecting questions and what should more accurately be called *insisting questions*. Positive RQs are always insisting questions – they are underlyingly assertions. Negative RQs can have high negation and low negation. If the negation is high, they are underlyingly rejections. If the negation is low, they are underlyingly negated assertions, and pattern with positive RQs.

The theory as presented has a couple of open issues, as well as points at which the empirical underpinning is not as strong as could be desired. The following section gives an overview of these open issues.

5.1 Open issues

As was just mentioned, the typology of positive and negative RQs is somewhat curious: negative RQs are ambiguous between a rejecting and an insisting reading, while positive RQs are always insisting. (1d) is not an attested reading of a positive RQ:

- (1) a. Peter kommt doch wohl nicht auch?
 = PREFER(REJECT(*p*)) (Rejecting RQ)

- b. Peter kommt doch wohl auch nicht?
= PREFER(ASSERT($\neg p$)) (Insisting RQ)
- c. Peter kommt doch wohl auch?
= PREFER(ASSERT(p)) (Insisting RQ)
- d. Peter kommt doch wohl auch?
 \neq PREFER(REJECT($\neg p$)) (\emptyset)

(1d) is a gap in the paradigm of rejecting questions and insisting questions, in which a question type that should exist seems to be unattested. It may be possible to explain this gap by making reference to a markedness principle: a hypothetical rejection of a negated proposition contains a covert negation, and as such is more marked than a hypothetical assertion of a positive proposition, which does not contain any covert elements. Interlocutors will thus prefer the interpretation as a hypothetical assertion for the string-identical questions in (1c) and (1d). Why, then, does this not apply to the negated RQs in (1a) and (1b)? One possible answer is that the PPI *auch* (“too”) disambiguates the two different speech acts, much in the same way it can disambiguate the two types of negative polar questions. However, the prediction would then be that in the absence of such a disambiguating element, preference should be given to the less marked interpretation, which is that of a hypothetical assertion of a negated proposition, i.e. (1b), since here the surface negation in the utterance corresponds to propositional negation instead of negation at the speech act level. This prediction is not borne out in my intuition, i.e. (2) will virtually always be interpreted as a ‘true’ negative RQ.

- (2) *Context for rejecting reading: the speaker sees a list of party guests that has Peter’s name on it.*

Context for insisting reading: arguably the same as that of the rejecting reading.

Peter kommt doch wohl nicht?

= PREFER(REJECT(p))

\neq PREFER(ASSERT($\neg p$))

It is possible that both *auch* and a negation are required for the ambiguity to arise. A NRQ that does not contain *auch* like (2) is unambiguous since only the interaction of negation and the presupposition of *auch* gives rise to the rejecting/insisting ambiguity. Since there is no negation in PRQs by definition, they cannot be ambiguous, even if they contain *auch*. Ultimately, I must leave open the issue of default interpretations of ambiguous speech acts to future research.

With respect to question bias, an open question is whether the derivation of the bias

values of RQs can be generalized to other question types. Can question bias always be derived from the semantics of a question type? Is Gärtner and Gyuris (2016)'s bias space more constrained after the proposed analysis of RQs? The answers to these questions are complicated by the fact that there is no agreement on what the bias values of e.g. ONPQs actually are. RQs with their rather 'strict' bias profile formed a natural starting point for the investigation of the genesis of question bias, but other, less restricted question types will need further empirical work.

In terms of intonation, only Swedish RQs and Swedish rejections have been investigated. Swedish DQs were not part of Experiment II, so it is unknown whether their intonation patterns with that of RQs – although it is likely, given that RQs were characterized by the same questionhood cues that differentiate declarative questions from assertions according to the literature. On the German side of this thesis, intonation was not investigated empirically at all. It is an open issue whether the various subtypes of German RQs can be (or must be) disambiguated prosodically. The extent to which incredulous intonation can 'save' otherwise felicitous questions – including RQs – is also still unknown.

Modal particles are a central component of this thesis, which makes the continued lack of a functional theory of the semantics and pragmatics of modal particles all the more problematic. This thesis has contributed an experiment that shows that *väl* always introduces a contrastive bias into questions with declarative syntax – in the sense that a question *väl(p)?* presupposes that *p* is unlikely to be true – but a full formalization of the semantics and pragmatics of this modal particle (and its German counterparts) is yet to be achieved.

The syntax of RQs in general and high negation (in declaratives) in particular has not been addressed empirically. For example, the extent to which fusing *nicht* and *ein* to *kein* is obligatory, optional or prohibited in the various subtypes of RQs appears to be subject to regional variation, which means that clear consequences for the theory are difficult to draw without experimental investigation. Furthermore, the influence of scrambling and information structure on the felicity of RQs (as well as other question types) requires a more rigorous investigation than this thesis could provide.

Overall, however, I consider these open questions concrete and specific enough that progress on the empirical underpinnings of semantic and pragmatic theory should be possible in these avenues. Finally, I would like to point out a phenomenon that could also be described using the model proposed in this thesis.

5.2 Other ‘hypothetic’ speech acts

Rejecting questions have been analyzed in this thesis as ‘preferred’ rejections (in the case of NRQs with high negation) or assertions (in the case of PRQs and NRQs with low negation), i.e. as an indication by the speaker that s/he would like to carry out a specific speech act, but is unable to. This raises the issue of whether there are other preferred speech acts. For example, are there preferred questions? The answer may be *yes*: German *ob*-questions can arguably be analyzed as preferred questions. This question type looks formally identical to an embedded question containing *ob* (“if”), but is used as an independent utterance. Crucially, *ob*-questions can be used even in contexts in which it is mutually known that the answer to the question is not available to any of the interlocutors.

- (3) Ob das der richtige Weg ist?
 if that the right way is
 “(I wonder) whether that is the right way?”

(3) can be analyzed as an indication on the part of the speaker that s/he would like to ask the question *Is this the right way?* but is aware of and acknowledges the fact that the addressee could not possibly answer it. The discourse effect of (3) is that the underlying question is raised as an issue, with an indirect exhortation towards the addressee to weigh in on this issue – however, no obligations to answer the question are placed on the addressee, unlike with a polar question. This is similar to how RQs do not commit the speaker to rejecting the underlying proposition. Truckenbrodt (2004) analyzes *ob*-questions as wishes for knowledge (i.e. with no reference to the addressee in their meaning), while polar questions are analyzed as exhortations towards the addressee to share knowledge. In this framework, RQs with high negation would be wishes for a rejection of knowledge.

I consider it an open issue whether all speech acts can be modified in this way. For example, it is unlikely that it is possible to indicate a preference for an exclamative, since the addressee can do nothing to influence the felicity conditions of an exclamative, i.e. s/he is unable to help the speaker feel surprised/annoyed/etc. This suggests that hypothetical speech acts such as RQs must constitute a coherent exhortation – they must, ultimately, have a function. If a speech act offers no sensible courses of action to the addressee, it is infelicitous.

6 Appendix – experimental materials

6.1 Experiment 1

6.1.1 Items

- (1) Sven och Per är på en tidningsaffär. Försäljaren är inte i sikte. Per gömmer en tidning under sin jacka. Sven säger:
Sven and Per are in a newspaper shop. The salesman is not in view. Per hides a newspaper under his jacket. Sven says:
- a. Du tänker inte stjäla en tidning?
you intend not steal a newspaper
 - b. Du tänker väl inte stjäla en tidning?
you intend MP not steal a newspaper
 - c. Inte tänker du stjäla en tidning?
not intend you steal a newspaper
 - d. Inte tänker du väl stjäla en tidning?
not intend you MP steal a newspaper
Intended meaning for all: : “Surely you are not going to steal a newspaper?”
- (2) Lisa och Anna är på fest. Lisa börjar ta på sig skorna. Anna säger:
Lisa and Anna are at a party. Lisa starts putting her shoes on. Anna says:
- a. Du vill inte gå redan?
you want not go already
 - b. Du vill väl inte gå redan?
you want MP not go already
 - c. Inte vill du gå redan?
not want you go already
 - d. Inte vill du väl gå redan?
not want you MP go already
Intended meaning for all: : “Surely you don’t don’t want to leave already?”
- (3) Lars kommer hem och ser sin sambo krypa runt på golvet. Han säger till henne:
Lars comes home and sees his partner crawl around on the floor. He says to her:
- a. Du tappade inte dina glasögon igen?
you lost not your glasses again
 - b. Du tappade väl inte dina glasögon igen?
you lost MP not your glasses again

- c. Inte tappade du dina glasögon igen?
not lost you your glasses again
- d. Inte tappade du väl dina glasögon igen?
not lost you MP your glasses again
Intended meaning for all: : “Surely you didn’t lose your glasses again?”
- (4) Det är Ullas födelsedag. Hennes man överräcker henne en present. Hon tittar förvirrad. Han säger:
It is Ulla’s birthday. Her husband gives her a present. She looks confused. He says:
- a. Du kan inte ha glömt din egen födelsedag?
you can not have forgotten your own birthday
- b. Du kan väl inte ha glömt din egen födelsedag?
you can MP not have forgotten your own birthday
- c. Inte kan du ha glömt din egen födelsedag?
not can you have forgotten your own birthday
- d. Inte kan du väl ha glömt din egen födelsedag?
not can you MP have forgotten your own birthday
Intended meaning for all: : “Surely you can’t have forgotten your own birthday?”
- (5) Åsa berättar för sin kompis Svea vem hon bjöd in till sin födelsedagsfest. Bland gästerna är också Sveas ex. Svea säger:
Åsa tells her friend Svea whom she invited to her birthday party. Among the guests is also Svea’s ex-boyfriend. Svea says:
- a. Han kommer inte också?
he comes not too
- b. Han kommer väl inte också?
he comes MP not too
- c. Inte kommer han också?
not comes he too
- d. Inte kommer han väl också?
not comes he MP too
Intended meaning for all: : “Surely he’s not coming, too?”
- (6) Lena och Sofia tittar tv tillsammans. På nyheterna berättas att påven valde att avgå. Lena säger:
Lena and Sofia watch TV together. The news report that the Pope chose to resign. Lena says:
- a. Påven kan inte avgå?
the.pope can not resign
- b. Påven kan väl inte avgå?
the.pope can MP not resign
- c. Inte kan påven avgå?
not can the.pope resign

- d. Inte kan väl påven avgå?
not can MP the.pope resign
Intended meaning for all: : “Surely the Pope can’t resign?”
- (7) Jan står framför sina föräldrars hus och röker. Hans mor kommer hem tidigare än vanligt, ser honom och säger:
Jan stands in front of his parents’ house and smokes. His mother comes home earlier than usual, sees him and says:
- a. Du röker inte?
you smoke not
- b. Du röker väl inte?
you smoke MP not
- c. Inte röker du?
not smoke you
- d. Inte röker du väl?
not smoke you MP
Intended meaning for all: : “Surely you’re not smoking?”
- (8) Det är söndag och familjen Johansson tänker ta en promenad just nu. Alla tar på sig kläderna, men pappan också tar med sig ett paraply. Mamman säger:
It is Sunday, and the Johanssons are about to go for a walk. Everyone is getting dressed, but the father also takes an umbrella with him. The mother says:
- a. Det ska inte regna idag?
it shall not rain today
- b. Det ska väl inte regna idag?
it shall MP not rain today
- c. Inte ska det regna idag?
not shall it rain today
- d. Inte ska det väl regna idag?
not shall it MP rain today
Intended meaning for all: : “Surely it’s not going to rain today?”
- (9) Några vänner sitter och spelar brädspel. Peter gör någonting suspekt under bordet. Pia säger:
A couple of friends are playing boardgames. Peter does something suspicious under the table. Pia says:
- a. Du fuskar inte?
you cheat not
- b. Du fuskar väl inte?
you cheat MP not
- c. Inte fuskar du?
not cheat you
- d. Inte fuskar du väl?
not cheat you MP

Intended meaning for all: : “Surely you’re not cheating?”

- (10) På nyheterna berättas att Margaret Thatcher kommer att övervara drottning Elizabeths födelsedagsfest. Johan säger:
The news say that Margaret Thatcher will be attending Queen Elizabeth’s birthday celebration. Johan says:
- a. Thatcher lever inte fortfarande?
 Thatcher lives not still
 - b. Thatcher lever väl inte fortfarande?
 Thatcher lives MP not still
 - c. Inte lever Thatcher fortfarande?
 not lives Thatcher still
 - d. *Inte lever Thatcher väl fortfarande?
 not lives Thatcher MP still
 Intended meaning for all: : “Surely Thatcher is not still alive?” (Note: Thatcher died during the course of this experiment.)
- (11) Maria och Eva är på semester i Ryssland. De är på en station och letar efter biljettluckan. Maria läser en skylt och säger: "Vi måste gå ditåt." Eva säger:
Maria and Eva are on vacation in Russia. They are at a train station and are looking for the ticket office. Maria reads a sign and says: “We must go that way.” Eva says:
- a. Du kan inte läsa det?
 you can not read that
 - b. Du kan väl inte läsa det?
 you can MP not read that
 - c. Inte kan du läsa det?
 not can you read that
 - d. Inte kan du väl läsa det?
 not can you MP read that
 Intended meaning for all: : “Surely you can’t read that?”
- (12) Bengt kommer in i Karins kontor. Hon sitter och skriver någonting. Bengt säger:
Bengt enters Karin’s office. She is writing something. Bengt says:
- a. Jag stör inte?
 I disturb not
 - b. Jag stör väl inte?
 I disturb MP not
 - c. Inte stör jag?
 not disturb I
 - d. Inte stör jag väl?
 not disturb I MP
 Intended meaning for all: : “Surely I’m not interrupting you?”

- (13) Ingrid kommer till sin arbetsplats. Hennes arbetskamrat Jens var sjuk för två veckor sedan, och nu är hans stol tom igen. Ingrid säger till en kollega:
Ingrid arrives at her workplace. Her co-worker Jens was sick two weeks ago, and now his chair is empty again. Ingrid says to a co-worker:
- a. Jens är inte sjuk igen?
 Jens is not sick again
 - b. Jens är väl inte sjuk igen?
 Jens is MP not sick again
 - c. Inte är Jens sjuk igen?
 not is Jens sick again
 - d. *Inte är Jens väl sjuk igen?
 not is Jens MP sick again
 Intended meaning for all: : “Surely Jens is not sick again?”
- (14) Sören är på besök hos sin vän Fabian. De har inte setts på ett år. Plötsligt hörs skällande i ett annat rum. Sören säger:
Sören is visiting his friend Fabian. They haven't seen each other in a year. Suddenly, there is the sound of barking in another room. Sören says:
- a. Du har inte skaffat hund?
 you have not gotten dog
 - b. Du har väl inte skaffat hund?
 you have MP not gotten dog
 - c. Inte har du skaffat hund?
 not have you gotten dog
 - d. Inte har du väl skaffat hund?
 not have you MP gotten dog
 Intended meaning for all: : “Surely you didn't get a dog?”
- (15) Kerstin hittar inte sin plånbok. Hennes man föreslår att hon ringer polisen. Kerstin skrattar först, men han förblir allvarlig. Kerstin säger:
Kerstin cannot find her wallet. Her husband suggests that she call the police. Kerstin laughs at first, but he remains serious. Kerstin says:
- a. Du menar det inte på allvar?
 you mean that not on seriousness
 - b. Du menar det väl inte på allvar?
 you mean that MP not on seriousness
 - c. Inte menar du det på allvar?
 not mean you that on seriousness
 - d. Inte menar du det väl på allvar?
 not mean you that MP on seriousness
 Intended meaning for all: : “Surely you're not serious?”
- (16) Erik och Mikael sitter i bilen och lyssnar på radio. Den spelar en dansbandssång och Mikael börjar sjunga med högt. Erik säger:

Erik och Mikael are in the car, listening to the radio. A cheesy song comes on and Mikael starts singing along. Erik says:

- a. Du gillar inte det här bandet?
you like not this here the.band
 - b. Du gillar väl inte det här bandet?
you like MP not this here the.band
 - c. Inte gillar du det här bandet?
not like you this here the.band
 - d. Inte gillar du väl det här bandet?
not like you MP this here the.band
- Intended meaning for all: : “Surely you don’t like this band?”

6.2 Experiment 2

6.2.1 Item 1

- (1) [Rejection, object focus]

Ett samtal om Anna som är konstnär. Hon målar ett porträtt just nu.

A conversation about Anna, who is an artist. She is working on a portrait at the moment.

- a. Anna ska ju måla Maja snart. Jag är spänd på att se porträttet.
Anna will MP paint Maja soon I am excited on to see the.portrait
“Anna is painting Maja soon, as we both know. I’m looking forward to seeing the portrait soon.”
- b. **Inte målar Anna Maja.** Anna målar ju alltid bara män. Hon målar
not paints Anna Maja Anna paints MP always only men. She paints
Mikael.
Mikael.
“Anna isn’t painting Maja. Anna only ever paints men, as you should know. She is painting Mikael.”

- (2) [Rejecting question, object focus]

Ett samtal om Anna som är bildkonstnär. Hon arbetar med ett porträtt just nu.

A conversation about Anna, who is a visual artist. She is working on a portrait at the moment.

- a. Anna ska måla ett porträtt snart. Jag tror det ska vara ett porträtt av Maja.
Anna will paint a portrait soon I believe it will be a portrait of Maja
“Anna is going to paint a portrait soon. I think it will be a portrait of Maja.”
- b. **Inte målar Anna Maja?** Hon lovade ju att måla Mikael. Hon borde väl
not paints Anna Maja she promised MP to paint Mikael she ought MP
måla honom?
paint him
“Surely Anna isn’t painting Maja? She promised to paint Mikael, you know. Surely she ought to be painting him?”

(3) [Rejection, verb focus]

Ett samtal om Anna som är konstnär. Hon arbetar på ett porträtt just nu.

A conversation about Anna, who is an artist. She is working on a portrait at the moment.

- a. Anna ska måla Maja snart. Jag kan knappast vänta på att se porträttet.
Anna will paint Maja soon I can hardly wait on to see the portrait
“Anna is going to paint Maja soon. I can hardly wait to see the portrait.”
- b. **Inte målar Anna Maja.** Anna hatar ju att måla. Hon tecknar Maja.
not paints Anna Maja Anna Anna hates MP to paint she draws Maja
“Anna isn’t painting Maja. Anna hates painting, as you should know. She is drawing Maja.”

(4) [Rejecting question, verb focus]

Ett samtal om Anna som är konstnär. Hon arbetar med ett porträtt just nu.

A conversation about Anna, who is an artist. She is working on a portrait at the moment.

- a. Anna ska göra ett porträtt av Maja snart. Jag undrar om hon kommer
Anna will do a portrait of Maja soon. I wonder whether she will
måla henne eller porträttera henne på ett annat sätt.
paint her or portrait her on a other way
“Anna is going to do a portrait of Maja soon. I wonder whether she will paint her or portrait her in some other way.”
- b. **Inte målar Anna Maja?** Anna hatar nog att måla. Hon tecknar väl Maja,
not paints Anna Maja Anna hatar MP too paint. she draws MP Maja
som vanligt?
as usual
“Surely Anna isn’t painting Maja? Anna hates painting, I think. Surely she is painting Maja, as always?”

6.2.2 Item 2

(5) [Rejection, object focus]

Ett samtal om Emma och om nålvin, en ny sorts brännvin som är mycket populärt.

A conversation about Emma and about nålvin, a new sort of brandy that is very popular.

- a. Emma gör så skumma affärer. Hon langar nålvin sedan nyligen.
Emma does so shady things. She deals nålvin since the other day
“Emma is involved in such shady business. She is dealing nålvin now.”
- b. **Inte langar Emma nålvin.** Det vet ju var och en att hon langar knark.
not deals Emma nålvin it knows MP everyone that she deals drugs
“Emma isn’t dealing nålvin. Everyone knows that she is dealing drugs.”

(6) [Rejecting question, object focus]

Ett samtal om Emma och om nålvin. Nålvin är en ny sorts brännvin som är mycket

populärt.

A conversation about Emma and about nålvin. Nålvin is a new sort of brandy that is very popular.

- a. Emma gör så skumma affärer. Hon langar någonting hemifrån. Jag tror Emma does so shady things she deals something from home I believe det är nålvin.
it is nålvin
“Emma is involved in such shady business. She is dealing something out of her home. I think it is nålvin.”
- b. **Inte langar Emma nålvin?** Det kan väl knappast löna sig? Hon borde not deals Emma nålvin that can MP barely pay.off REFL she ought verkligen langa knark.
really deal drugs
“Surely Emma isn’t dealing nålvin? Surely that can’t pay off? She really ought to deal drugs.”

(7) [Rejection, verb focus]

Ett samtal om Emma och om nålvin, en ny alkohol som är mycket populärt.

A conversation about Emma and about nålvin, a new alcoholic drink that is very popular.

- a. Emma har verkligen hamnat på sned. Hon langar nålvin nu.
Emma has really landed on crooked she deals nålvin now
“Emma has really lost her way. She is dealing nålvin now.”
- b. **Inte langar Emma nålvin.** Hon har ju fått licens. Hon säljer den alltså not deals Emma nålvin she has MP received license she sells it thus lagligen.
legally
“Emma isn’t dealing nålvin. She has gotten a license, as you should know. So she is selling it legally.”

(8) [Rejecting question, verb focus]

Ett samtal om Emma och om nålvin, en ny sorts brännvin som säljs väldigt mycket.

A conversation about Emma and about nålvin, a new sort of brandy that sells very well.

- a. Emma har hela källaren full med nålvin. Jag tror hon langar det.
Emma has whole the basement filled with nålvin I believe she deals it
“Emma’s entire basement is filled with nålvin. I think she is dealing it.”
- b. **Inte langar Emma nålvin?** Man kan ju få licens. Hon säljer den väl not deals Emma nålvin one can MP receive license she sells it MP lagligen?
legally
“Surely Emma isn’t dealing nålvin? It is possible to get a license, as we both know. Surely she is selling it legally?”

6.2.3 Item 3

- (9) [Rejection, object focus]

Ett samtal om Janne som äger rum utanför en bokaffär.

A conversation about Janne, which is happening outside of a book store.

- a. Jag har köpt en bok om lämlar till Janne. Han gillar ju dem små
I have bought a book about lemmings for Janne he likes MP those little
rackarna.
rascals
“I have bought a book about lemmings for Janne. As we both know, he likes
those little rascals.”
- b. **Inte gillar Janne lämlar.** Du måste ha förväxlat det. Du vet ju att
not likes Janne lemmings you must have confused that you know MP that
han gillar murmeldjur.
he likes marmots
“Janne doesn’t like lemmings. You must have gotten that mixed-up. You know
that he likes marmots.”

- (10) [Rejecting question, object focus]

Ett samtal om favoritdjur som äger rum på zoo.

A conversation about favourite animals, which is happening at the zoo.

- a. Mina favoritdjur är elefanter. Janne däremot har så
My favourite.animals are elephants Janne on.the.other.hand has so
konstiga favoritdjur. Jag har glömt exakt vilka det är,
weird favourite.animals I have forgotten precisely which.ones it is
men det var antingen lämlar eller sengångare.
but it was either lemmings or sloths
“My favourite animals are elephants. Janne, on the other hand, has such a
weird favourite animal. I have forgotten which one exactly, but it was either
lemmings or sloths.”
- b. **Inte gillar Janne lämlar?** De är nog världens dummaste djur. Jag
not likes Janne lemmings they are MP the.world’s stupidest animals I
hoppas verkligen att hans favoritdjur är sengångare.
hope really that his favourite.animals are sloths
“Surely Janne doesn’t like lemmings? They are just about the stupidest ani-
mals on Earth. I really hope his favourite animals are sloths.”

- (11) [Rejection, verb focus]

Ett samtal om Janne som äger rum en vecka innan hans födelsedag.

A conversation about Janne, which is happening a week before his birthday.

- a. Jag har köpt en bok om lämlar till Janne. Han gillar ju dem.
I have bought a book about lemmings for Janne he likes MP them
“I have bought a book about lemmings for Janne. He likes them, you know.”

- b. **Inte gillar Janne lämlar.** Det vet ju var och en att han älskar dem.
not likes Janne lemmings it knows MP everyone that he loves them
“Janne doesn’t like lemmings. Everyone knows that he loves them.”

(12) [Rejecting question, verb focus]

Ett samtal om skadedjur och om en bonde vid namn Janne.

A conversation about pests and about a farmer named Janne.

- a. Bönderna från gården bredvid tolererar lämlarna som lever på deras
the.farmers from the.farm nearby tolerate the.lemmings that live on their
gård, men jag tror att Janne till och med gillar dem.
farm but I think that Janne even likes them
“The farmers from the nearby farm tolerate the lemmings that live on their
farm, but I think Janne even likes them.”
- b. **Inte gillar Janne lämlar?** De är ju skadedjur. Han borde väl snarare
not likes Janne lämlar they are MP pests he ought MP rather
hata dem?
hate them
“Surely Janne doesn’t like lemmings? They are pests, as we both know. Surely
he should rather hate them?”

6.2.4 Item 4

(13) [Rejection, object focus]

På en reklamfirma. Ett samtal om Manne som just nu håller på att skriva ett jättelångt mejl om det senaste reklamprojektet.

At an advertising firm. A conversation about Manna, who is currently writing a very long mail about the latest ad project.

- a. Otroligt. Manne mejlar Emma angående projektet fastän hon
unbelievable Manne mails Emma regarding the.project even.though she
jobbar åt konkurrenterna.
works for the.competitors
“Unbelievable. Manne is writing a mail to Emma regarding the project, even
though she works for the competition.”
- b. **Inte mejlar Manne Emma.** Han skulle ju aldrig inviga henne. Han mejlar
not mails Manne Emma he would MP never let.in her he mails
Åsa.
Åsa
“Manne isn’t mailing to Emma. He would never let her in on that, you know.
He is mailing to Åsa.”

(14) [Rejecting question, object focus]

På ett reklamföretag. Ett samtal om Manne som just nu håller på att skriva ett jättelångt mejl om det senaste reklamprojektet.

At an advertising company. A conversation about Manne, who is currently writing

a very long mail about the latest ad project.

- a. Jag skulle vilja veta vem Manne mejlar till angående projektet. Jag I should want know whom Manne mails to regarding the project I tror nästan att det är Emma. believe almost that it is Emma
 “I would like to know whom Manne is writing a mail to regarding the project. I almost think it is Emma.”
- b. **Inte mejlar Manne Emma?** Hon får ju inte veta något om not mails Manne Emma? she must MP not know anything about projektet. Han borde väl mejla Åsa? the project he ought MP mail Åsa
 “Surely Manne isn’t mailing to Emma? We both know that she isn’t supposed to know anything about the project. Surely he ought to be mailing to Åsa?”

(15) [Rejection, verb focus]

På en reklamfirma. Ett samtal om Manne som är ansvarig för kommunikation i det senaste reklamprojektet.

At an advertising firm. A conversation about Manne, who is responsible for communication within the latest ad project.

- a. Manne skriver som besatt. Äntligen mejlar han Emma. Det tog ju tid Manne writes like possessed finally mails he Emma it took MP time nog. enough
 “Manne is writing like crazy. He is finally mailing Emma. That took long enough.”
- b. **Inte mejlar Manne Emma.** Jag vet inte varför han skriver så mycket. not mails Manne Emma I know not why he writes so much
 Han ringde Emma, som det var bestämt. he called Emma like it was agreed
 “Manne isn’t mailing Emma. I don’t know why he writing so much. He called Emma, as agreed.”

(16) [Rejecting question, verb focus]

På ett reklamföretag. Ett samtal om Manne som är ansvarig för kommunikation i det senaste reklamprojektet.

At an advertising company. A conversation about Manne, who is responsible for communication within the latest ad project.

- a. Manne skulle ju kontaktera Emma angående dem där diagrammen. Jag Manne should MP contact Emma regarding those there the diagrams I tror att han håller på att mejla henne just nu. believe that he holds on to mail her right now
 “Manne was supposed to contact Emma regarding those diagrams, you know. I think he is in the process of mailing her right now.”

- b. **Inte mejlar Manne Emma?** I så fall får vi ju vänta en månad på not mails Manne Emma in such case must we MP wait a month on svar. Han vet väl att han borde ringa henne?
answer he knows MP that he ought call her
“Surely Manne isn’t mailing Emma? If that’s the case, we must wait a month for an answer. Surely he knows that he ought to call her?”

6.2.5 Item 5

- (17) [Rejection, object focus]
Alma, domare i en lokal fotbollsturnering, kallar till sig spelarna Lina och Maria efter en oklar spelsituation.
Alma, referee in a local football tournament, calls the players Lina and Maria to herself after an unclear situation.
- a. Wow, Alma varnar Lina. Otroligt – hon sparkade ju bara på bollen!
wow Alma cautions Lina unbelievable she kicked MP only on the ball
“Wow, Alma is cautioning Lina. Unbelievable - she only hit the ball, you know!”
- b. **Inte varnar Alma Lina.** Titta bara – hon varnar ju Maria, nämligen för not cautions Alma Lina look only she cautions MP Maria namely for handspel.
handball
“Alma isn’t cautioning Lina. Just look – she is cautioning Maria, for a handball.”
- (18) [Rejecting question, object focus]
Alma, domare i en lokal fotbollsturnering, kallar till sig spelarna Maria och Lina efter ett slagsmål.
Alma, referee in a local football tournament, calls the players Lina and Maria to herself after a fight.
- a. Oj, Alma varnar någon. Jag tror det ska träffa Lina.
oh Alma cautions someone I believe it will hit Lina
“Oh, Alma is cautioning someone. I think it will be Lina.”
- b. **Inte varnar Alma Lina?** Det var ju Maria som startade slagsmålet. Hon not cautions Alma Lina it was MP Maria who started the fight she borde väl varna henne?
ought MP caution her
“Surely Alma isn’t cautioning Lina? It was Maria who started the fight. Surely she ought to caution her?”
- (19) [Rejection, verb focus]
Alma är domare i en lokal fotbollsturnering. Just nu sparkade spelaren Lina sin motspelare Maria.
Alma is a referee in a local football tournament. Just now, the player Lina kicked

her opponent Maria.

- a. Oj, då har Lina gått för långt. Nu måste Alma varna henne.
oh there has Lina gone too far now must Alma caution her
“Oh, Lina has gone too far now. Now Alma has to caution her.”
- b. **Inte varnar Alma Lina.** Titta, Lina är ju redan på väg till
not cautions Alma Lina look Lina is MP already on way to
omklädningsrummet. Alma har alltså utvisat henne.
the.locker.room Alma has thus sent.off her
“Alma isn’t cautioning Lina. Look, Lina is already on her way to the locker
room. So Alma has sent her off.”

(20) [Rejecting question, verb focus]

*Alma, domare i en lokal fotbollsturnering, kallar till sig spelaren Lina efter ett
slagsmål.*

Alma, referee in a local football tournament, calls the player Lina to herself after a
fight.

- a. Oj, Alma kallar till sig Lina. Jag tror att hon tänker varna henne.
oh Alma calls to REFL Lina I believe that she intends caution her
“Oh, Alma is calling Lina to herself. I think she wants to caution her.”
- b. **Inte varnar Alma Lina?** Det var ett klart rött kort. Hon borde väl
not cautions Alma Lina that was a clear red card she ought MP
utvisa henne?
send.off her
“Surely Alma isn’t cautioning Lina? That was clear red card. Surely she
should send her off?”

6.2.6 Item 6

(21) [Rejection, object focus]

Ett samtal om hantverk och om reparationer.

A conversation about handicraft and repairs.

- a. Ah, titta, Eva limmar äntligen den där gamla hyllan.
ah look Eva glues finally that there old the.rack
“Ah, look, Eva is finally gluing that old rack.”
- b. **Inte limmar Eva hyllan.** Den har hon ju redan kastat bort. Hon
not glues Eva the.rack it has she MP already thrown away she
limmar det antika bordet.
glues the antique the.table
“Eva isn’t gluing the rack. She has already thrown that away, you know. She
is gluing the antique table.”

(22) [Rejecting question, object focus]

Ett samtal om Eva, som just nu sysslar med en gammal möbel.

A conversation about Eva, who is at the moment occupied with an old piece of

furniture.

- a. Eva limmar någonting. Jag tror det är hennes gamla hylla.
Eva glues something I believe it is her old rack
“Eva is gluing something. I think it is her old rack.”
- b. **Inte limmar Eva hyllan?** Den är väl hopplöst trasig? Hon borde limma
not glues Eva the.rack it is MP hopelessly broken she ought glue
bordet, det kan repareras.
the.table that can be.repaired
“Surely Eva isn’t gluing the rack? It is hopelessly broken, isn’t it? She ought
to glue the table, that one can be repaired.”

(23) [Rejection, verb focus]

Ett samtal om reparationer och om hantverk.

A conversation about repairs and handicraft.

- a. Ah, Eva limmar sin gamla hylla. Det var verkligen på tiden.
ah Eva glues her old rack that was really on.the.time
“Ah, Eva is gluing her old rack. That was really about time.”
- b. **Inte limmar Eva hyllan.** Var inte dum nu! Du kan ju höra att hon
not glues Eva the.rack be not stupid now you can MP hear that she
spikar den.
nails it
“Eva isn’t gluing the rack. Don’t be stupid! You can hear that she is nailing
it.”

(24) [Rejecting question, verb focus]

Ett samtal om Eva, som just nu sysslar med en gammal hylla.

A conversation about Eva, who is at the moment occupied with an old rack.

- a. Jag undrar på vilket sätt Eva kommer att reparera den gamla hyllan. Om
I wonder on which way Eva will to repair the old the.rack if
jag ser det rätt, så limmar hon den.
I see it right so glues she it
“I wonder in which way Eva will repair the old rack. If I see it right, she is
gluing it.”
- b. **Inte limmar Eva hyllan?** I så fall kommer den vara trasig igen om
not glues Eva the.rack in such case will it be broken again in
en vecka. Hon borde väl spika den?
a week she ought MP nail it
“Surely Eva isn’t gluing the rack? In that case, it would just be broken again
in a week. Surely she ought to nail it?”

6.2.7 Item 7

(25) [Rejection, object focus]

Ett samtal i ett företag där det är brukligt att säga ‘ni’ till folk som är äldre än en

själv.

A conversation in a company in which it is customary to use the formal pronoun 'ni' when talking to people who are older than oneself.

- a. Johan niar så få kollegor här. Det är verkligen bara Laila och Britta.
Johan ni-s so few colleagues here it is really only Laila and Britta
"Johan says 'ni' to so few colleagues here. It really is just Laila and Britta."
- b. **Inte niar Johan Laila.** Laila är ju 20 år yngre än honom. Han niar not ni-s Johan Laila Laila is MP 20 years younger than him he ni-s bara Britta.
only Britta
"Johan doesn't say 'ni' to Laila. Laila is 20 years younger than him, as you should know. He only says 'ni' to Britta."

(26) [Rejecting question, object focus]

Ett samtal i ett företag där det är brukligt att säga 'ni' till kollegor som är äldre än en själv.

A conversation in a company in which it is customary to use the formal pronoun 'ni' when talking to people who are older than oneself.

- a. Jag kan knappast tro hur få kollegor Johan niar här. Så vitt jag I can barely believe how few colleagues Johan ni-s here so far I vet är det bara Britta och Laila.
know is it only Britta and Laila
"I can barely believe how few colleagues Johan says 'ni' to here. As far as I know, it is just Britta and Laila."
- b. **Inte niar Johan Laila?** Laila är visst mycket yngre än honom. Han not ni-s Johan Laila Laila is MP much younger than him he borde väl bara nia Britta?
ought MP only ni Britta
"Surely Johan doesn't say 'ni' to Laila? She is much younger than him, by the looks of it. Surely he ought to say 'ni' only to Britta?"

(27) [Rejection, verb focus]

Ett samtal i en firma där det är brukligt att säga 'ni' till folk som är äldre än en själv.

A conversation in a company in which it is customary to use the formal pronoun 'ni' when talking to people who are older than oneself.

- a. Johan måste vara jätteung. Han niar Laila, och hon är bara 19.
Johan must be really young he ni-s Laila and she is only 19
"Johan must be really young. He says 'ni' to Laila, and she is only 19."
- b. **Inte niar Johan Laila.** Är du döv? Han duar ju henne.
not ni-s Johan Laila are you deaf he du-s MP her
"Johan doesn't say 'ni' to Laila. Are you deaf? He says 'du' to her."

(28) [Rejecting question, verb focus]

Ett samtal på ett kontor där det är brukligt att säga 'ni' till kollegor som är äldre än en själv.

A conversation in an office in which it is customary to use the formal pronoun 'ni' when talking to people who are older than oneself.

- a. Johan har visst fel uppfattning om hur gammal Laila är. Om jag
Johan has MP wrong idea about how old Laila is if I
hörde rätt, så niade han henne nyss.
heard right so ni-d he her just
"Johan apparently has the wrong idea about how Laila is. If if I heard right,
he said 'ni' to her just now."
- b. **Inte niar Johan Laila?** Hon måste nog vara mycket yngre än honom.
not ni-s Johan Laila she must MP be much younger than him
Han borde väl dua henne?
he ought MP du her
"Surely Johan doesn't say 'ni' to Laila? She must be much younger than him,
I think. Surely he ought to say 'du' to her?"

6.2.8 Item 8

- (29) [Rejection, object focus]

Ett samtal om Mona, som är en ökad boskapstjuv.

A conversation about Mona, who is a notorious cattle rustler.

- a. Jag tänker köpa en lama hos Mona. Du vet ju att hennes djur är
I intend buy a llama at Mona you know MP that her animals are
så billiga därför att hon nallar dem.
so cheap because she steals them
"I'm going to buy a llama at Mona's. You know that her animals are so cheap
because she steals them."
- b. Inte nallar Mona lamor. Du kommer inte få en lama där. Hon nallar ju
not steals Mona llamas you will not get a llama there she steals MP
bara får.
only sheep
"Mona doesn't steal llamas. You are not going to get a llama there. She only
steals sheep."

- (30) [Rejecting question, object focus]

Ett samtal om Mona, som är en känd boskapstjuv.

A conversation about Mona, who is a famous cattle rustler.

- a. Titta, där åker Mona med en lastbil fylld med djur som hon nyss
look there drives Mona with a truck filled with animals that she just
nallat! Om jag ser rätt är det lamor denna gång.
stole if I see right is it llama this time
"Looks, there goes Mona in truck filled with animals that she just stole. If I
see it right, it's llamas this time."

- b. Inte nallar Mona lamor? Ingen vill väl köpa dem. Hon borde väl not steals Mona llamas nobody wants MP buy them she ought MP fortfarande bara nalla får?
still only steal sheep
“Surely Mona doesn’t steal llamas? Nobody will want to buy them. Surely she should continue to only steel sheep?”

(31) [Rejection, verb focus]

Ett samtal om Mona, som är en välkänd kreaturshandlare.

A conversation about Mona, who is a very famous animal trader.

- a. Jag skulle gärna vilja köpa en lama men Mona är för dubios. Hon nallar I should gladly want buy a llama but Mona is too dubious she steals nämligen sina djur.
namely her animals
“I would like to buy a llama, but Mona is too dubious. After all, she steals her animals.”
- b. Inte nallar Mona lamor. Det vet ju var och en att hon köper dem på not steals Mona llamas it knows MP everybody that she buys them on boskapsmarknaden.
the.livestock.market
“Mona doesn’t steal llamas. Everybody knows that she buys them on the livestock market.”

(32) [Rejecting question, verb focus]

Ett samtal om Mona, som är en känd kreaturshandlare.

A conversation about Mona, who is a famous animal trader.

- a. Mona säljer också lamor sedan nyligen. Men jag har på känn att Mona sells also llamas since the.other.day but I have on feeling that hon har nallat dem.
she has stolen them
“Mona also sells llamas since the other day. But I have a hunch that she stole them.”
- b. Inte nallar Mona lamor? Hon är ju så framgångsrik. Hon borde väl ha not steals Mona llamas she is MP so successful she ought MP have råd att köpa dem?
resources to buy them
“Surely Mona doesn’t steal llamas? She is so successful, you know. Surely she should be able to afford them?”

6.3 Experiment 3

6.3.1 Swedish experiment

Item 1, positive HQ and negative RQ:

- (1) Britt och Therese är med sin vän Peter på semester. Britt och Therese talar om Peters förslag att hyra motorbåt vid båtuthyrningen idag. Therese ser att båten inte ligger vid uthyrningsbryggan. Hon frågar:

Britt and Therese are on vacation with their friend Peter. Britt and Therese talk about Peter's proposal to rent a motorboat at the boat rental today. Therese sees that the boat is not docked at the rental dock. She asks:

- a. Peter har väl hyrt motorbåten? Det skulle han ju inte göra.
Peter has MP rented motor-boat.the that should he MP not do
- b. Peter har väl inte hyrt motorbåten? Det skulle han ju inte göra.
Peter has MP not rented motor-boat.the that should he MP not do

Item 1, positive RQ and negative HQ:

- (2) Britt och Therese är med sin vän Peter på semester. Britt och Therese talar om Peters förslag att hyra motorbåt vid båtuthyrningen idag. Therese ser att båten ligger vid uthyrningsbryggan. Hon frågar:

Britt and Therese are on vacation with their friend Peter. Britt and Therese talk about Peter's proposal to rent a motorboat at the boat rental today. Therese sees that the boat is docked at the rental dock. She asks:

- a. Peter har väl hyrt motorbåten? Det skulle han ju egentligen göra.
Peter has MP rented motor-boat.the that should he MP actually do
- b. Peter har väl inte hyrt motorbåten? Det skulle han ju egentligen göra.
Peter has MP not rented motor-boat.the that should he MP actually do

Item 2, positive HQ and negative RQ:

- (3) Anders, Elisabeth och deras vuxna son Karl gör denna vecka en storstädning av deras gemensamma hus. Anders och Elisabeth kommer precis hem från järnaffären, när de ser att det står kartonger från vinden utanför trädgårdsgrinden. Elisabet frågar:

"Anders, Elisabet and their adult son Karl are cleaning their house this week. Anders and Elisabet are just returning from the the hardware store when they see that there are boxes from the attic in front of the yard gate. Elisabet says:"

- a. Karl har **väl** städat vinden? Det skulle han ju egentligen låta bli.
Karl has MP cleaned the.attic that should he MP actually let be
Intended: "I guess Karl has cleaned the attic? He was supposed to not do that."
(PHQ)
- b. Karl har **väl inte** städat vinden? Det skulle han ju egentligen låta bli.
Karl has MP not cleaned the.attic that should he MP actually let be
Intended: "Surely Karl has not cleaned the attic? He was supposed to not do that."
(NRQ)

Item 2, positive RQ and negative HQ:

- (4) Anders, Elisabeth och deras vuxna son Karl gör denna vecka en storstädning av de-

ras gemensamma hus. Anders och Elisabeth kommer precis hem från järnaffären, när de ser att det inte står kartonger från vinden utanför trädgårdsgrinden. Elisabet frågar:

“Anders, Elisabet and their adult son Karl are cleaning their house this week. Anders and Elisabet are just returning from the hardware store when they see that there are no boxes from the attic anywhere to be seen in front of the yard gate. Elisabet says:”

- a. Karl har **väl** städat vinden? Det skulle han ju egentligen göra.
Karl has MP cleaned the attic that should he MP actually do
Intended: “Surely Karl has cleaned the attic? He was supposed to do that.”
(PRQ)
- b. Karl har **väl inte** städat vinden? Det skulle han ju egentligen göra.
Karl has MP not cleaned the attic that should he MP actually do
Intended: “I guess Karl has not cleaned the attic? He was supposed to do that.”
(NHQ)

Item 3, positive HQ and negative RQ:

- (5) Astrid, Erik och Sven arbetar i ett snickeri. Astrid och Erik samtalar efter jobbet om allt vad de tre har gjort idag. Erik ser ett nästan färdigt bord, vars bordsplatta glänsar. Erik frågar:
Astrid, Erik and Sven work as carpenters. After closing time, Astrid and Erik talk about what the three of them have done today. Erik sees a nearly finished table whose top looks shiny. Erik asks:
 - a. Sven har väl polerat bordet? Det skulle han ju inte göra.
Sven has MP polished the table that should he MP not do
 - b. Sven har väl inte polerat bordet? Det skulle han ju inte göra.
Sven has MP not polished the table that should he MP not do

Item 3, positive RQ and negative HQ:

- (6) Astrid, Erik och Sven arbetar i ett snickeri. Astrid och Erik samtalar efter jobbet om allt vad de tre har gjort idag. Erik ser ett nästan färdigt bord, vars bordsplatta ser grovligt ut. Erik frågar:
Astrid, Erik and Sven work as carpenters. After closing time, Astrid and Erik talk about what the three of them have done today. Erik sees a nearly finished table whose top looks rough. Erik asks:
 - a. Sven har väl polerat bordet? Det skulle han ju egentligen göra.
Sven has MP polished the table that should he MP actually do
 - b. Sven har väl inte polerat bordet? Det skulle han ju egentligen göra.
Sven has MP not polished the table that should he MP actually do

Item 4, positive HQ and negative RQ:

- (7) Gunnar och Sara pratar om renoveringsarbeten i sitt nya hus, som deras son Lasse

hjälper dem med. De står precis framför vardagsrumsdörren och pratar om vad Lasse har gjort idag, när Sara ser en tom hink med takfärg. Sara frågar:

Gunnar and Sara talk about the renovation works in their new house, which their son Lasse is helping them with. They stand outside the living room and talk about what Lasse has done today, when Sara sees an empty container of ceiling paint. Sara asks:

- a. Lasse har väl målat taket? Det skulle han ju inte göra.
Lasse has MP painted the ceiling that should he MP not do
- b. Lasse har väl inte målat taket? Det skulle han ju inte göra.
Lasse has MP not painted the ceiling that should he MP not do

Item 4, positive RQ and negative HQ:

- (8) Gunnar och Sara pratar om renoveringsarbeten i sitt nya hus, som deras son Lasse hjälper dem med. De står precis framför vardagsrumsdörren och pratar om vad Lasse har gjort idag, när Sara ser en öppen hink med takfärg. Sara frågar:

Gunnar and Sara talk about the renovation works in their new house, which their son Lasse is helping them with. They stand outside the living room and talk about what Lasse has done today, when Sara sees an unopened container of ceiling paint. Sara asks:

- a. Lasse har väl målat taket? Det skulle han ju egentligen göra.
Lasse has MP painted the ceiling that should he MP actually do
- b. Lasse har väl inte målat taket? Det skulle han ju egentligen göra.
Lasse has MP not painted the ceiling that should he MP actually do

Item 5, positive HQ and negative RQ:

- (9) Ida och Hans samtalar om sin nyligen från hemmet utflugna son Lars och hans funderingar på att sälja sin älskade cykel. De går förbi Lars hus. Hans ser att det inte står någon cykel vid det vanliga stället. Han frågar:

Ida and Hans talk about their son Lars, who recently moved out, and his thoughts of selling his beloved bicycle. They pass Lars's house. Hans sees that there is no bike in the usual spot. He asks:

- a. Lars har väl sålt cykeln? Det skulle han ju inte göra.
Lars has MP sold the bike that should he MP not do
- b. Lars har väl inte sålt cykeln? Det skulle han ju inte göra.
Lars has MP not sold the bike that should he MP not do

Item 5, positive RQ and negative HQ:

- (10) Ida och Hans samtalar om sin nyligen från hemmet utflugna son Lars och hans funderingar på att sälja sin älskade cykel. De går förbi Lars hus. Hans ser att det står en cykel vid det vanliga stället. Han frågar:

Ida and Hans talk about their son Lars, who recently moved out, and his thoughts of selling his beloved bicycle. They pass Lars's house. Hans sees a bike stand in

the usual spot. He asks:

- a. Lars har väl sålt cykeln? Det skulle han ju egentligen göra.
Lars has MP sold the.bike that should he MP actually do
- b. Lars har väl inte sålt cykeln? Det skulle han ju egentligen göra.
Lars has MP not sold the.bike that should he MP actually do

Item 6, positive HQ and negative RQ:

- (11) Jan, Lennart och Richard är byggnadsarbetare, som för närvarande bygger en uppfart framför ett hus. Jan och Lennart kommer till jobbet en morgon, och känner att det luktar tjära lång väg. Lennart frågar:

Jan, Lennart and Richard are construction workers who are currently building a driveway in front of a house. Jan and Lennart come to work one morning, and they can smell tar already from far away. Lennart asks:

- a. Richard har väl tjärat uppfarten? Det skulle han ju inte göra.
Richard has MP tarred the.driveway that should he MP not do
- b. Richard har väl inte tjärat uppfarten? Det skulle han ju inte göra.
Richard has MP not tarred the.driveway that should he MP not do

Item 6, positive RQ and negative HQ:

- (12) Jan, Lennart och Richard är byggnadsarbetare, som för närvarande bygger en uppfart framför ett hus. Jan och Lennart kommer till jobbet en morgon, och det luktar inte tjära. Lennart frågar:

Jan, Lennart and Richard are construction workers who are currently building a driveway in front of a house. Jan and Lennart come to work one morning, and it doesn't smell of tar. Lennart asks:

- a. Richard har väl tjärat uppfarten? Det skulle han ju egentligen göra.
Richard has MP tarred the.driveway that should he MP actually do
- b. Richard har väl inte tjärat uppfarten? Det skulle han ju egentligen göra.
Richard has MP not tarred the.driveway that should he MP actually do

Item 7, positive HQ and negative RQ:

- (13) Stig, Karin och Åke renoverar tillsammans en klassisk bil. Stig och Karin pratar om vad Åke har gjort på bilen idag. Karin ser att det står en tom färghink i garaget. Karin frågar:

Stig, Karin and Åke renovate a classic car together. Stig and Karin talk about what Åke has done on the car today. Karin sees an empty jar of paint in the garage. Karin asks:

- a. Åke har väl lackerat om färgen? Det skulle han ju inte göra.
Åke has MP painted around the.paint that should he MP not do
- b. Åke har väl inte lackerat om färgen? Det skulle han ju inte göra.
Åke has MP not painted around the.paint that should he MP not do

Item 7, positive RQ and negative HQ:

- (14) Stig, Karin och Åke renoverar tillsammans en klassisk bil. Stig och Karin pratar om vad Åke har gjort på bilen idag. Karin ser att det står en oöppnad färghink i garaget. Karin frågar:
Stig, Karin and Åke renovate a classic car together. Stig and Karin talk about what Åke has done on the car today. Karin sees an unopened jar of paint in the garage. Karin asks:
- Åke har väl lackerat om färgen? Det skulle han ju egentligen göra.
 Åke has MP painted around the.paint that should he MP actually do
 - Åke har väl inte lackerat om färgen? Det skulle han ju egentligen
 Åke has MP not painted around the.paint that should he MP actually
 göra.
 do

Item 8, positive HQ and negative RQ:

- (15) Margareta och Tomas samtalar om huruvida deras trädgårdsmästare Bengt redan har genomfört det planerade arbetet för häcken bakom huset. Framför huset står en häckklippare, som är omgiven av små grenar. Tomas frågar:
Margareta and Tomas talk about whether their gardener Bengt has already completed the planned work on the hedge behind their house. In front of the house, there is a woodchipper that is surrounded by small branches. Tomas asks:
- Bengt har väl klippt häcken? Det skulle han ju inte göra.
 Bengt has MP clipped the.hedge that should he MP not do
 - Bengt har väl inte klippt häcken? Det skulle han ju inte göra.
 Bengt has MP not clipped the.hedge that should he MP not do

Item 8, positive RQ and negative HQ:

- (16) Margareta och Tomas samtalar om huruvida deras trädgårdsmästare Bengt redan har genomfört det planerade arbetet för häcken bakom huset. Framför huset står en häckklippare, som ser oanvänd ut. Tomas frågar:
Margareta and Tomas talk about whether their gardener Bengt has already completed the planned work on the hedge behind their house. In front of the house, there is a woodchipper that looks unused. Tomas asks:
- Bengt har väl klippt häcken? Det skulle han ju egentligen göra.
 Bengt has MP clipped the.hedge that should he MP actually do
 - Bengt har väl inte klippt häcken? Det skulle han ju egentligen göra.
 Bengt has MP not clipped the.hedge that should he MP actually do

Item 9, positive HQ and negative RQ:

- (17) Sten och Alice driver ett hotell, där det för närvarande inte är mycket att göra. De talar om den aktuella beläggningen och om receptionisten Maria har tilldelat alla

rum korrekt. Alice ser att nyckeln till källarrummet inte hänger på sin krok. Alice frågar:

Sten and Alice run a hotel, in which it is currently not busy. They talk about the current room assignments and about whether their receptionist has assigned all rooms correctly. Alice sees that the key to the basement room does not hang on its hook. Alice asks:

- a. Maria har väl hyrt ut källarrummet? Det skulle hon ju inte göra.
Maria has MP rented out the.basement.room that should she MP not do
- b. Maria har väl inte hyrt ut källarrummet? Det skulle hon ju inte göra.
Maria has MP not rented out the.basement.room that should she MP not do

Item 9, positive RQ and negative HQ:

- (18) Sten och Alice driver ett hotell, där det för närvarande är mycket att göra. De talar om den aktuella beläggningen och om receptionisten Maria har tilldelat alla rum korrekt. Alice ser att nyckeln till källarrummet hänger på sin krok. Alice frågar:
Sten and Alice run a hotel, in which it is currently very busy. They talk about the current room assignments and about whether their receptionist has assigned all rooms correctly. Alice sees that the key to the basement room hangs on its hook. Alice asks:

- a. Maria har väl hyrt ut källarrummet? Det skulle hon ju egentligen göra.
Maria has MP rented out the.basement.room that should she MP actually do
- b. Maria har väl inte hyrt ut källarrummet? Det skulle hon ju egentligen göra.
Maria has MP not rented out the.basement.room that should she MP actually do

Item 10, positive HQ and negative RQ:

- (19) Kerstin, Johan och Lisa har en fruktträdgård och håller för närvarande på med skörden. Kerstin och Johan talar om vad Lisa har gjort. Johan ser att korgen som används för äpplen inte längre står i skjulet. Han frågar:
Kerstin, Johan and Lisa own an orchard and are currently busy with the harvest. Kerstin and Johan talk about what Lisa has done. Johan sees that the basket which is used for the apples is no longer sitting in the shed. He asks:

- a. Lisa har väl skördat äpplena? Det skulle hon ju inte göra.
Lisa has MP harvested the.apples that should she MP not do
- b. Lisa har väl inte skördat äpplena? Det skulle hon ju inte göra.
Lisa has MP not harvested the.apples that should she MP not do

Item 10, positive RQ and negative HQ:

- (20) Kerstin, Johan och Lisa har en fruktträdgård och håller för närvarande på med skörden. Kerstin och Johan talar om vad Lisa har gjort. Johan ser att korgen som används för äpplen står tomt i skjulet. Han frågar:
Kerstin, Johan and Lisa own an orchard and are currently busy with the harvest. Kerstin and Johan talk about what Lisa has done. Johan sees that the basket which is used for the apples is sitting empty in the shed. He asks:
- Lisa har väl skördat äpplena? Det skulle hon ju egentligen göra.
 Lisa has MP harvested the apples that should she MP actually do
 - Lisa har väl inte skördat äpplena? Det skulle hon ju egentligen göra.
 Lisa has MP not harvested the apples that should she MP actually do

Item 11, positive HQ and negative RQ:

- (21) Mikael och Birgitta driver en godisbutik och talar efter stängningstid om vad deras anställda Emma har gjort idag. Birgitta ser att det inte ligger lakritsförpackningar framme på lagret. Hon frågar:
Mikael and Birgitta run a candy store and are talking after closing time about what their employee Emma has done today. Birgitta sees that there are no licorice packets in the storage. She asks:
- Emma har väl lagt in lakritsen? Det skulle hon ju inte göra.
 Emma has MP laid in the licorice that should she MP not do
 - Emma har väl inte lagt in lakritsen? Det skulle hon ju inte göra.
 Emma has MP not laid in the licorice that should she MP not do

Item 11, positive RQ and negative HQ:

- (22) Mikael och Birgitta driver en godisbutik och talar efter stängningstid om vad deras anställda Emma har gjort idag. Birgitta ser att det ligger lakritsförpackningar framme på lagret. Hon frågar:
Mikael and Birgitta run a candy store and are talking after closing time about what their employee Emma has done today. Birgitta sees that there are licorice packets in the storage. She asks:
- Emma har väl lagt in lakritsen? Det skulle hon ju egentligen göra.
 Emma has MP laid in the licorice that should she MP actually do
 - Emma har väl inte lagt in lakritsen? Det skulle hon ju egentligen göra.
 Emma has MP not laid in the licorice that should she MP actually do

Item 12, positive HQ and negative RQ:

- (23) Eva och Nils är på väg att besöka deras gemensamma vän Maja. De hör redan på långt håll att Majas hund, vilken vanligtvis stannar inomhus för det mesta, skäller högt. Nils frågar:
Eva and Nils are on their way to visit their mutual friend Maja. They hear Maja's

dog barking from far away, even though it usually stays indoor. Nils asks:

- a. Maja har väl släppt ut hunden? Det skulle hon ju inte göra.
Maja has MP let out the.dog that should she MP not do
- b. Maja har väl inte släppt ut hunden? Det skulle hon ju inte göra.
Maja has MP not let out the.dog that should she MP not do

Item 12, positive RQ and negative HQ:

- (24) Eva och Nils är på väg att besöka deras gemensamma vän Maja. Annorlunda än vanligt hörs idag inte ett ljud från Majas hund. Nils frågar:
Eva and Nils are on their way to visit their mutual friend Maja. Unlike usually, not a sound is heard from Maja's dog. Nils asks:

- a. Maja har väl släppt ut hunden? Det skulle hon ju egentligen göra.
Maja has MP let out the.dog that should she MP actually do
- b. Maja har väl inte släppt ut hunden? Det skulle hon ju egentligen göra.
Maja has MP not let out the.dog that should she MP actually do

Item 13, positive HQ and negative RQ:

- (25) Alexander och Ingrid talar om fiskdammen i sin trädgård, och om deras dotter Åsa har tittat till de unga fiskarna idag. Ingrid ser att en förpackning med fiskfoder är öppen i skåpet. Hon frågar:
Alexander and Ingrid talk about the fishes in their garden, and about whether their daughter Åsa has seen after them today. Ingrid sees an opened packet of fish fodder in the cupboard. She asks:

- a. Åsa har väl matat fiskarna? Det skulle hon ju inte göra.
Åsa has MP fed the.fishes that should she MP not do
- b. Åsa har väl inte matat fiskarna? Det skulle hon ju inte göra.
Åsa has MP not fed the.fishes that should she MP not do

Item 13, positive RQ and negative HQ:

- (26) Alexander och Ingrid talar om fiskdammen i sin trädgård, och om deras dotter Åsa har tittat till de unga fiskarna idag. Ingrid ser att en förpackning med fiskfoder är oöppnad i skåpet. Hon frågar:
Alexander and Ingrid talk about the fishes in their garden, and about whether their daughter Åsa has seen after them today. Ingrid sees an unopened packet of fish fodder in the cupboard. She asks:

- a. Åsa har väl matat fiskarna? Det skulle hon ju egentligen göra.
Åsa has MP fed the.fishes that should she MP actually do
- b. Åsa har väl inte matat fiskarna? Det skulle hon ju egentligen göra.
Åsa has MP not fed the.fishes that should she MP actually do

Item 14, positive HQ and negative RQ:

- (27) Marie och Torsten är på väg till sitt kontor, som de delar med sin kollega Anna. När de kommer in är Anna inte där och det är ganska varmt på kontoret. Torsten frågar:

Marie and Torsten are on the way to their office, which they share with their co-worker Anna. When they come in, Anna is not there and it is quite warm in the office. Torsten asks:

- a. Anna har väl satt på värmen? Det skulle hon ju inte göra.
Anna has MP turned on the heating that should she MP not do
- b. Anna har väl inte satt på värmen? Det skulle hon ju inte göra.
Anna has MP not turned on the heating that should she MP not do

Item 14, positive RQ and negative HQ:

- (28) Marie och Torsten är på väg till sitt kontor, som de delar med sin kollega Anna. När de kommer in är Anna inte där och det är ganska kallt på kontoret. Torsten frågar:

Marie and Torsten are on the way to their office, which they share with their co-worker Anna. When they come in, Anna is not there and it is quite cold in the office. Torsten asks:

- a. Anna har väl satt på värmen? Det skulle hon ju egentligen göra.
Anna has MP turned on the heating that should she MP actually do
- b. Anna har väl inte satt på värmen? Det skulle hon ju egentligen göra.
Anna has MP not turned on the heating that should she MP actually do

Item 15, positive HQ and negative RQ:

- (29) Stefan och Amanda talar om en present som de vill ge till en gemensam vän. De planerar att lägga med ett kort som de och deras samboende Victoria ska skriva under, innan de slår in paketet. När Stefan och Amanda kommer hem ser de att en rulle omslagspapper och en sax ligger på bordet. Amanda frågar:

Stefan and Amanda talk about a present that they want to give to a mutual friend. They intend to include a card which they and their flatmate Victoria are going to sign before they wrap the present. When Stefan and Amanda come home, they see that a roll of gift wrap and a pair of scissors lie on the table. Amanda asks:

- a. Victoria har väl slagit in presenten? Det skulle hon ju inte göra.
Victoria has MP wrapped in the present that should she MP not do
- b. Victoria har väl inte slagit in presenten? Det skulle hon ju inte göra.
Victoria has MP not wrapped in the present that should she MP not do

Item 15, positive RQ and negative HQ:

- (30) Stefan och Amanda talar om en present som de vill ge till en gemensam vän. De bad sin samboende Victoria slå in presenten. När Stefan och Amanda kommer hem ser de att en rulle omslagspapper ligger oöppnad på bordet. Amanda frågar:

Stefan and Amanda talk about a present that they want to give to a mutual friend.

They asked their flatmate Victoria to wrap the present. When Stefan and Amanda come home, they see that a roll of gift wrap lies unopened on the table. Amanda asks:

- a. Victoria har väl slagit in presenten? Det skulle hon ju egentligen göra.
Victoria has MP wrapped in the present that should she MP actually do
- b. Victoria har väl inte slagit in presenten? Det skulle hon ju egentligen göra.
Victoria has MP not wrapped in the present that should she MP actually do

Item 16, positive HQ and negative RQ:

- (31) Annika, Robert och Kristina håller på med sin gemensamma trädgård. Robert ser en tom förpackning med morotsfrön. Han frågar:
Annika, Robert och Kristina are working in their garden. Robert sees an empty packet of carrot seeds. He asks:
 - a. Kristina har väl sått morötter? Det skulle hon ju inte göra.
Kristina has MP sowed carrots that should she MP not do
 - b. Kristina har väl inte sått morötter? Det skulle hon ju inte göra.
Kristina has MP not sowed carrots that should she MP not do

Item 16, positive RQ and negative HQ:

- (32) Annika, Robert och Kristina håller på med sin gemensamma trädgård. Robert ser en öppen förpackning med morotsfrön. Han frågar:
Annika, Robert och Kristina are working in their garden. Robert sees an unopened packet of carrot seeds. He asks:
 - a. Kristina har väl sått morötter? Det skulle hon ju egentligen göra.
Kristina has MP sowed carrots that should she MP actually do
 - b. Kristina har väl inte sått morötter? Det skulle hon ju egentligen göra.
Kristina has MP not sowed carrots that should she MP actually do

Item 17, positive HQ and negative RQ:

- (33) Patrik, Hanna och Mats håller på med vårstädningen. Patrik och Hanna talar om vilka sysslor som Mats har gjort. Hanna ser att rengöringsmedlet för badrummet står framför dörren till badrummet. Hon frågar:
Patrik, Hanna and Mats are busy with the spring cleaning. Patrik and Hanna talk about which chores Mats has done. Hanna sees that the cleaning agent for the bathroom is sitting in front of the bathroom door. She asks:
 - a. Mats har väl rengjort badrummet? Det skulle han ju inte göra.
Mats has MP cleaned the bathroom that should he MP not do
 - b. Mats har väl inte rengjort badrummet? Det skulle han ju inte göra.
Mats has MP not cleaned the bathroom that should he MP not do

Item 17, positive RQ and negative HQ:

- (34) Patrik, Hanna och Mats håller på med vårstädningen. Patrik och Hanna talar om vilka sysslor som Mats har gjort. Hanna ser att rengöringsmedlet för badrummet står i förrådet. Hon frågar:
Patrik, Hanna and Mats are busy with the spring cleaning. Patrik and Hanna talk about which chores Mats has done. Hanna sees that the cleaning agent for the bathroom is sitting in the pantry. She asks:
- Mats har väl rengjort badrummet? Det skulle han ju egentligen göra.
 Mats has MP cleaned the.bathroom that should he MP actually do
 - Mats har väl inte rengjort badrummet? Det skulle han ju egentligen göra.
 Mats has MP not cleaned the.bathroom that should he MP actually do

Item 18, positive HQ and negative RQ:

- (35) Matilda och Oskar arbetar i en plantskola och pratar om lärlingen Per och om vad han har gjort i dag. Oskar ser att jorden kring petuniorna är fuktig. Han frågar:
Matilda and Oskar work in a flower nursery, and are talking about their trainee Per and what he has done today. Oskar sees that the soil around the petunias is wet. He asks:
- Per har väl vattnat petuniorna? Det skulle han ju inte göra.
 Per has MP watered the.petunias that should he MP not do
 - Per har väl inte vattnat petuniorna? Det skulle han ju inte göra.
 Per has MP not watered the.petunias that should he MP not do

Item 18, positive RQ and negative HQ:

- (36) Matilda och Oskar arbetar i en plantskola och pratar om lärlingen Per och om vad han har gjort i dag. Oskar ser att jorden kring petuniorna är torr. Han frågar:
Matilda and Oskar work in a flower nursery, and are talking about their trainee Per and what he has done today. Oskar sees that the soil around the petunias is dry. He asks:
- Per har väl vattnat petuniorna? Det skulle han ju egentligen göra.
 Per has MP watered the.petunias that should he MP actually do
 - Per har väl inte vattnat petuniorna? Det skulle han ju egentligen göra.
 Per has MP not watered the.petunias that should he MP actually do

Item 19, positive HQ and negative RQ:

- (37) Niklas, Ulla och deras samboende Olof ska tillsammans laga soppa till middag och steka en stor fisk som de har fångat samma förmiddag. Niklas och Ulla har just kommit hem. I lägenheten luktar det bränt fett. Ulla frågar:
Niklas, Ulla and their flatmate Olof are going to prepare a soup for dinner and fry a big fish which they caught the same day. Niklas and Ulla have just come home. The flat smells of burnt fat. Ulla asks:

- a. Olof har väl stekt fisken? Det skulle han ju inte göra.
Olof has MP fried the.fish that should he MP not do
- b. Olof har väl inte stekt fisken? Det skulle han ju inte göra.
Olof has MP not fried the.fish that should he MP not do

Item 19, positive RQ and negative HQ:

- (38) Niklas, Ulla och deras samboende Olof vill äta stekt fisk till middag. Niklas och Ulla har just kommit hem. I lägenheten är mörkt. Man kan höra datorljud från Olafs rum. Ulla frågar:
Niklas, Ulla and their flatmate Olof want to eat fried fish for dinner. Niklas and Ulla have just come home. One can hear computer sounds coming from Olof's room. Ulla asks:
- a. Olof har väl stekt fisken? Det skulle han ju egentligen göra.
Olof has MP fried the.fish that should he MP actually do
 - b. Olof har väl inte stekt fisken? Det skulle han ju egentligen göra.
Olof has MP not fried the.fish that should he MP actually do

Item 20, positive HQ and negative RQ:

- (39) Elin och Gösta arbetar på en advokatbyrå och pratar om dokumenten för ett fall de nyligen avslutat. Gösta ser att filerna inte längre ligger på hans kollegas Henriks skrivbord. Gösta frågar:
Elin and Gösta work at a law firm, and are talking about the files regarding a newly-finished case. Gösta sees that the files no longer lie on his colleague Henrik's desk. Gösta asks:
- a. Henrik har väl arkiverat dokumenten? Det skulle han ju inte göra.
Henrik has MP archived the.documents that should he MP not do
 - b. Henrik har väl inte arkiverat dokumenten? Det skulle han ju inte göra.
Henrik has MP not archived the.documents that should he MP not do

Item 20, positive RQ and negative HQ:

- (40) Elin och Gösta arbetar på en advokatbyrå och pratar om dokumenten för ett fall de nyligen avslutat. Gösta ser att några av filerna ligger fortfarande på hans kollegas Henriks skrivbord. Gösta frågar:
Elin and Gösta work at a law firm, and are talking about the files regarding a newly-finished case. Gösta sees that some of the documents still lie on his colleague Henrik's desk. Gösta asks:
- a. Henrik har väl arkiverat dokumenten? Det skulle han ju egentligen göra.
Henrik has MP archived the.documents that should he MP actually do
 - b. Henrik har väl inte arkiverat dokumenten? Det skulle han ju egentligen göra.
Henrik has MP not archived the.documents that should he MP actually do

Item 21, positive HQ and negative RQ:

- (41) Håkan, Caroline och Julia driver en liten bokhandel. Håkan och Caroline talar om en stor beställning som en kund har gjort. Caroline ser att det ännu inte färdigförpackade bokpaketet inte är på den plats där hon senast såg det. Hon frågar:
Håkan, Caroline and Julia run a small book store. Håkan and Caroline talk about a big order that a customer has placed. Caroline sees that the book package, which has not been fully finished yet, is no longer in the spot where she last saw it. She asks:
- Julia har väl skickat bokpaketet? Det skulle hon ju inte göra.
 Julia has MP sent the.book.package that should she MP not do
 - Julia har väl inte skickat bokpaketet? Det skulle hon ju inte göra.
 Julia has MP not sent the.book.package that should she MP not do

Item 21, positive RQ and negative HQ:

- (42) Håkan, Caroline och Julia driver en liten bokhandel. Håkan och Caroline talar om en stor beställning som en kund har gjort. Caroline ser några böcker som skulle vara en del av beställningen. Hon frågar:
Håkan, Caroline and Julia run a small book store. Håkan and Caroline talk about a big order that a customer has placed. Caroline sees some books that are supposed to be a part of the order. She asks:
- Julia har väl skickat bokpaketet? Det skulle hon ju egentligen göra.
 Julia has MP sent the.book.package that should she MP actually do
 - Julia har väl inte skickat bokpaketet? Det skulle hon ju egentligen göra.
 Julia has MP not sent the.book.package that should she MP actually do

Item 22, positive HQ and negative RQ:

- (43) Julia, Emil och Ebba driver en butik för modellbyggare. Julia och Emil talar om ett gammalt modellfartyg som de har fått av en kund. Fartyget saknar en mast. Emil ser att förvaringslådan med gamla modellmaster står på arbetsbänken. Han frågar:
Julia, Emil and Ebba run a shop for model builders. Julia and Emil talk about an old model ship that they received from a costumer. The ship is missing a mast. Emil sees that the box containing old model masts stands on the workbench. He asks:
- Ebba har väl reparerat fartyget? Det skulle hon ju inte göra.
 Ebba has MP repaired the.ship that should she MP not do
 - Ebba har väl inte reparerat fartyget? Det skulle hon ju inte göra.
 Ebba has MP not repaired the.ship that should she MP not do

Item 22, positive RQ and negative HQ:

- (44) Julia, Emil och Ebba driver en butik för modellbyggare. Julia och Emil talar om ett

gammalt modellfartyg som de har fått av en kund. Fartyget saknar en mast. Emil ser att arbetsbänken som används till lagning av fartyg ser oanvänd ut. Han frågar:
Julia, Emil and Ebba run a shop for model builders. Julia and Emil talk about an old model ship that they received from a customer. The ship is missing a mast. Emil sees that the workbench that is used for the repair of ships looks unused. He asks:

- a. Ebba har väl reparerat fartyget? Det skulle hon ju egentligen göra.
 Ebba has MP repaired the ship that should she MP actually do
- b. Ebba har väl inte reparerat fartyget? Det skulle hon ju egentligen göra.
 Ebba has MP not repaired the ship that should she MP actually do

Item 23, positive HQ and negative RQ:

- (45) David och Elsa, två landskapsträdgårdsmästare, talar om trädfällningen i parken, och vad deras kollega Alva har gjort idag. Elsa tittar på högen med fällda träd och ser att där ligger färska ekgrenar. Hon frågar:

David and Elsa, two landscape gardeners, talk about the tree cuttings in the park, and what their colleague Alva has done today. Elsa looks at the pile of felled trees and sees fresh oak branches on it. She asks:

- a. Alva har väl fällt eken? Det skulle hon ju inte göra.
 Alva has MP felled the oak that should she MP not do
- b. Alva har väl inte fällt eken? Det skulle hon ju inte göra.
 Alva has MP not felled the oak that should she MP not do

Item 23, positive RQ and negative HQ:

- (46) David och Elsa, två landskapsträdgårdsmästare, talar om trädfällningen i parken, och vad deras kollega Alva har gjort idag. Den gamla eken stod högt upp på listan av träd som ska avverkas. Elsa tittar på högen med fällda träd och ser att där inte ligger färska ekgrenar. Hon frågar:

David and Elsa, two landscape gardeners, talk about the tree cuttings in the park, and what their colleague Alva has done today. The old oak stood high on the list of trees that should be felled. Elsa looks at the pile of felled trees and sees that there are no fresh oak branches on it. She asks:

- a. Alva har väl fällt eken? Det skulle hon ju egentligen göra.
 Alva has MP felled the oak that should she MP actually do
- b. Alva har väl inte fällt eken? Det skulle hon ju egentligen göra.
 Alva has MP not felled the oak that should she MP actually do

Item 24, positive HQ and negative RQ:

- (47) Helena och Mattias är på väg hem och pratar om julgranen, som de tänker dekorera i kväll tillsammans med sin dotter Linnéa. När de kommer hem ser de att lådan med julgransdekorationer står framför dörren. Lådan är tom. Mattias frågar:

Helena and Mattias are on their way home and talking about the Christmas tree, which they intend to decorate this evening together with their daughter Linnéa.

When they arrive home, they see that the box with Christmas tree decorations sits in front of the door. The box is empty. Mattias asks:

- a. Linnéa har väl klätt granen? Det skulle hon ju inte göra.
Linnéa has MP decorated the.christmas.tree that should she MP not do
- b. Linnéa har väl inte klätt granen? Det skulle hon ju inte göra.
Linnéa has MP not decorated the.christmas.tree that should she MP not do

Item 24, positive RQ and negative HQ:

- (48) Helena och Mattias är på väg hem och pratar om julgranen, som de bad sin dotter Linnéa dekorera. När de kommer hem ser de att lådan med julgransdekorationer står framför dörren. Lådan är stängd. Mattias frågar:

Helena and Mattias are on their way home and talking about the Christmas tree, which they asked their daughter Linnéa to decorate. When they arrive home, they see that the box with Christmas tree decorations sits in front of the door. The box is closed. Mattias asks:

- a. Linnéa har väl klätt granen? Det skulle hon ju egentligen göra.
Linnéa has MP decorated the.christmas.tree that should she MP actually do
- b. Linnéa har väl inte klätt granen? Det skulle hon ju egentligen göra.
Linnéa has MP not decorated the.christmas.tree that should she MP actually do

6.3.2 German experiment

Item 1, positive HQ and negative RQ:

- (1) Sabine und Theresa sind mit ihrem Freund Peter im Urlaub. Sabine und Theresa unterhalten sich über Peters Vorschlag, heute beim Bootsverleih das Motorboot auszuleihen. Theresa sieht, dass das Motorboot nicht am Verleihdock liegt. Sie fragt:

Sabine and Theresa are on vacation with their friend Peter. Sabine and Theresa talk about Peter's proposal to rent a motorboat at the boat rental today. Theresa sees that the boat is not docked at the rental dock. She asks:

- a. Peter hat wohl das Motorboot ausgeliehen? Das sollte er doch eigentlich lassen.
Peter has MP the motor-boat rented that should he MP actually let.be
- b. Peter hat doch wohl nicht das Motorboot ausgeliehen? Das sollte er doch lassen.
Peter has MP MP not the motor-boat rented that should he MP

eigentlich lassen.
actually let.be

Item 1, positive RQ and negative HQ:

- (2) Sabine und Theresa sind mit ihrem Freund Peter im Urlaub. Sabine und Theresa unterhalten sich über Peters Vorschlag, heute beim Bootsverleih das Motorboot auszuleihen. Theresa sieht, dass das Motorboot am Verleihdock liegt. Sie fragt:
Sabine and Theresa are on vacation with their friend Peter. Sabine and Theresa talk about Peter's proposal to rent a motorboat at the boat rental today. Theresa sees that the boat is docked at the rental dock. She asks:
- a. Peter hat doch wohl das Motorboot ausgeliehen? Das sollte er doch
Peter has MP MP the motor-boat rented that should he MP
eigentlich machen.
actually do
 - b. Peter hat wohl das Motorboot nicht ausgeliehen? Das sollte er doch
Peter has MP the motor-boat not rented that should he MP
eigentlich machen.
actually do

Item 2, positive HQ and negative RQ:

- (3) Martin, Elisabeth und ihr erwachsener Sohn Karl räumen diese Woche ihr gemeinsames Haus auf. Martin und Elisabeth kommen gerade vom Baumarkt nach Hause, als sie sehen, dass vor dem Gartentor Kisten aus dem Dachboden stehen. Elisabeth fragt:
"Martin, Elisabeth and their adult son Karl are cleaning their house this week. Martin and Elisabeth are just returning from the hardware store when they see that there are boxes from the attic in front of the yard gate. Elisabeth says:"
- a. Karl hat wohl den Dachboden aufgeräumt? Das sollte er doch eigentlich
Karl has MP the attic cleaned that should he MP actually
lassen.
let.be
Intended: "I guess Karl has cleaned the attic? He was supposed to letbe that."
(PHQ)
 - b. Karl hat doch wohl nicht den Dachboden aufgeräumt? Das sollte er doch
Karl has MP MP not the attic cleaned that should he MP
eigentlich lassen.
actually let.be
Intended: "Surely Karl has not cleaned the attic? He was supposed to let be
that."
(NRQ)

Item 2, positive RQ and negative HQ:

- (4) Martin, Elisabeth und ihr erwachsener Sohn Karl räumen diese Woche ihr gemein-

sames Haus auf. Martin und Elisabeth kommen gerade vom Baumarkt nach Hause, als sie sehen, dass vor dem Gartentor nirgendwo eine Kiste aus dem Dachboden zu sehen ist. Elisabeth fragt:

Context: *“Martin, Elisabeth and their adult son Karl are cleaning their house this week. Martin and Elisabeth are just returning from the the hardware store when they see that there are no boxes from the attic anywhere to be seen in front of the yard gate. Elisabeth says:”*

- a. Karl hat doch wohl den Dachboden aufgeräumt? Das sollte er doch
 Karl has MP MP the attic cleaned that should he MP
 eigentlich machen.
 actually do
 Intended: “Surely Karl has cleaned the attic? He was supposed to do that.”
 (PRQ)
- b. Karl hat wohl den Dachboden nicht aufgeräumt? Das sollte er doch
 Karl has MP the attic not cleaned that should he MP
 eigentlich machen.
 actually do
 Intended: “I guess Karl has not cleaned the attic? He was supposed to do that.”
 (NHQ)

Item 3, positive HQ and negative RQ:

- (5) Jutta, Erik und Sven arbeiten in einer Tischlerei. Jutta und Erik unterhalten sich zum Feierabend darüber, was die drei heute alles geschafft haben. Erik sieht einen fast fertigen Tisch, dessen Tischplatte sehr glänzt. Er fragt:
Jutta, Erik and Sven work as carpenters. After closing time, Jutta and Erik talk about what the three of them have done today. Erik sees a nearly finished table whose top looks shiny. Erik asks:
 - a. Sven hat wohl den Tisch poliert? Das sollte er doch eigentlich lassen.
 Sven has MP the table polished that should he MP actually let.be
 - b. Sven hat doch wohl nicht den Tisch poliert? Das sollte er doch eigentlich lassen.
 Sven has MP MP not the table polished that should he MP actually lassen.
 let.be

Item 3, positive RQ and negative HQ:

- (6) Jutta, Erik und Sven arbeiten in einer Tischlerei. Jutta und Erik unterhalten sich zum Feierabend darüber, was die drei heute alles geschafft haben. Erik sieht einen fast fertigen Tisch, dessen Tischplatte sehr rau aussieht. Er fragt:
Jutta, Erik and Sven work as carpenters. After closing time, Jutta and Erik talk about what the three of them have done today. Erik sees a nearly finished table whose top looks rough. Erik asks:

- a. Sven hat doch wohl den Tisch poliert? Das sollte er doch eigentlich
Sven has MP MP the table polished that should he MP actually
machen.
do
- b. Sven hat wohl den Tisch nicht poliert? Das sollte er doch eigentlich
Sven has MP the table not polished that should he MP actually
machen.
do

Item 4, positive HQ and negative RQ:

- (7) Florian und Sarah unterhalten sich über die Renovierungsarbeiten in ihrem neuen Haus, bei denen ihnen ihr Sohn Bernd hilft. Sie reden gerade vor der Wohnzimmertür darüber, was Bernd heute gemacht hat, als Sarah einen leeren Eimer Deckenfarbe sieht. Sie fragt:
Florian and Sarah talk about the renovation works in their new house, which their son Bernd is helping them with. They stand outside the living room and talk about what Bernd has done today, when Sarah sees an empty container of ceiling paint. Sarah asks:
 - a. Bernd hat wohl die Decke gestrichen? Das sollte er doch eigentlich lassen.
Bernd has MP the ceiling painted that should he MP actually let.be
 - b. Bernd hat doch wohl nicht die Decke gestrichen? Das sollte er doch
Bernd has MP MP not the ceiling painted that should he MP
eigentlich lassen.
actually let.be

Item 4, positive RQ and negative HQ:

- (8) Florian und Sarah unterhalten sich über die Renovierungsarbeiten in ihrem neuen Haus, bei denen ihnen ihr Sohn Bernd hilft. Sie reden gerade vor der Wohnzimmertür darüber, was Bernd heute gemacht hat, als Sarah einen ungeöffneten Eimer Deckenfarbe sieht. Sie fragt:
Florian and Sarah talk about the renovation works in their new house, which their son Bernd is helping them with. They stand outside the living room and talk about what Bernd has done today, when Sarah sees an unopened container of ceiling paint. Sarah asks:
 - a. Bernd hat doch wohl die Decke gestrichen? Das sollte er doch eigentlich
Bernd has MP MP the ceiling painted that should he MP actually
machen.
do
 - b. Bernd hat wohl die Decke nicht gestrichen? Das sollte er doch eigentlich
Bernd has MP the ceiling not painted that should he MP actually
machen.
do

Item 5, positive HQ and negative RQ:

- (9) Anke und Hans unterhalten sich über ihren gerade von zuhause ausgezogenen Sohn Lars und dessen Überlegungen, sein heißgeliebtes Fahrrad zu verkaufen. Sie kommen an Lars' Haus vorbei. Hans sieht, dass am üblichen Ort kein Fahrrad steht. Er fragt:

Anke and Hans talk about their son Lars, who recently moved out, and his thoughts of selling his beloved bicycle. They pass Lars's house. Hans sees that there is no bike in the usual spot. He asks:

- a. Lars hat wohl das Fahrrad verkauft? Das sollte er doch eigentlich lassen.
Lars has MP the bike sold that should he MP actually let.be
- b. Lars hat doch wohl nicht das Fahrrad verkauft? Das sollte er doch eigentlich lassen.
Lars has MP MP not the bike sold that should he MP actually let.be

Item 5, positive RQ and negative HQ:

- (10) Anke und Hans unterhalten sich über ihren gerade von zuhause ausgezogenen Sohn Lars und dessen Überlegungen, sein kaum benutztes Fahrrad zu verkaufen. Sie kommen an Lars' Haus vorbei. Hans sieht, dass am üblichen Ort ein Fahrrad steht, das wie das Fahrrad von Lars aussieht. Er fragt:

Anke and Hans talk about their son Lars, who recently moved out, and his thoughts of selling his beloved bicycle. They pass Lars's house. Hans sees a bike stand in the usual spot. He asks:

- a. Lars hat doch wohl das Fahrrad verkauft? Das sollte er doch eigentlich machen.
Lars has MP MP the bike sold that should he MP actually do
- b. Lars hat wohl das Fahrrad nicht verkauft? Das sollte er doch eigentlich machen.
Lars has MP the bike not sold that should he MP actually do

Item 6, positive HQ and negative RQ:

- (11) Jan, Rolf und Richard sind Bauarbeiter, die zur Zeit eine Auffahrt vor einem Haus bauen. Jan und Rolf kommen morgens zur Arbeit, und schon von weitem riecht es nach Teer. Rolf fragt:

Jan, Rolf and Richard are construction workers who are currently building a driveway in front of a house. Jan and Rolf come to work one morning, and they can smell tar already from far away. Rolf asks:

- a. Richard hat wohl die Auffahrt geteert? Das sollte er doch eigentlich
Richard has MP the driveway tarred that should he MP actually

lassen.

let.be

- b. Richard hat doch wohl nicht die Auffahrt geteert? Das sollte er doch
Richard has MP MP not the driveway tarred that should he MP
eigentlich lassen.
actually let.be

Item 6, positive RQ and negative HQ:

- (12) Jan, Rolf und Richard sind Bauarbeiter, die zur Zeit eine Auffahrt vor einem Haus bauen. Jan und Rolf kommen morgens zur Arbeit, und es riecht nicht nach Teer. Rolf fragt:

Jan, Rolf and Richard are construction workers who are currently building a driveway in front of a house. Jan and Rolf come to work one morning, and it doesn't smell of tar. Rolf asks:

- a. Richard hat doch wohl die Auffahrt geteert? Das sollte er doch eigentlich
Richard has MP MP the driveway tarred that should he MP actually
machen.
do
- b. Richard hat wohl die Auffahrt nicht geteert? Das sollte er doch eigentlich
Richard has MP the driveway not tarred that should he MP actually
machen.
do

Item 7, positive HQ and negative RQ:

- (13) Jörg, Karin und Holger renovieren gemeinsam einen Oldtimer. Jörg und Karin unterhalten sich darüber, was Holger heute am Auto gemacht hat. Karin sieht, dass in der Garage ein leerer Lackeimer steht. Sie fragt:

Jörg, Karin and Holger renovate a classic car together. Jörg and Karin talk about what Holger has done on the car today. Karin sees an empty jar of paint in the garage. Karin asks:

- a. Holger hat wohl den Lack erneuert? Das sollte er doch eigentlich lassen.
Holger has MP the paint renewed that should he MP actually let.be
- b. Holger hat doch wohl nicht den Lack erneuert? Das sollte er doch
Holger has MP MP not the paint renewed that should he MP
eigentlich lassen.
actually let.be

Item 7, positive RQ and negative HQ:

- (14) Jörg, Karin und Holger renovieren gemeinsam einen Oldtimer. Jörg und Karin unterhalten sich darüber, was Holger heute am Auto gemacht hat. Karin sieht, dass in der Garage ein ungeöffneter Lackeimer steht. Sie fragt:

Jörg, Karin and Holger renovate a classic car together. Jörg and Karin talk about

what Holger has done on the car today. Karin sees an unopened jar of paint in the garage. Karin asks:

- a. Holger hat doch wohl den Lack erneuert? Das sollte er doch eigentlich
Holger has MP MP the paint renewed that should he MP actually
machen.
do
- b. Holger hat wohl den Lack nicht erneuert? Das sollte er doch eigentlich
Holger has MP the paint not renewed that should he MP actually
machen.
do

Item 8, positive HQ and negative RQ:

- (15) Margarethe und Thomas unterhalten sich darüber, ob ihr Gärtner Daniel schon die Pläne für die Hecke hinterm Haus umgesetzt hat. Vorm Haus steht ein Häcksler, der von kleinen Ästen umgeben ist. Thomas fragt:
Margarethe and Thomas talk about whether their gardener Daniel has already completed the planned work on the hedge behind their house. In front of the house, there is a woodchipper that is surrounded by small branches. Thomas asks:
 - a. Daniel hat wohl die Hecke geschnitten? Das sollte er doch eigentlich
Daniel has MP the hedge clipped that should he MP actually
lassen.
let.be
 - b. Daniel hat doch wohl nicht die Hecke geschnitten? Das sollte er doch
Daniel has MP MP not the hedge clipped that should he MP
eigentlich lassen.
actually let.be

Item 8, positive RQ and negative HQ:

- (16) Margarethe und Thomas unterhalten sich darüber, ob ihr Gärtner Daniel schon die Pläne für die Hecke hinterm Haus umgesetzt hat. Vorm Haus steht ein Häcksler, der unbenutzt aussieht. Thomas fragt:
Margarethe and Thomas talk about whether their gardener Daniel has already completed the planned work on the hedge behind their house. In front of the house, there is a woodchipper that looks unused. Thomas asks:
 - a. Daniel hat doch wohl die Hecke geschnitten? Das sollte er doch eigentlich
Daniel has MP MP the hedge clipped that should he MP actually
machen.
do
 - b. Daniel hat wohl die Hecke nicht geschnitten? Das sollte er doch eigentlich
Daniel has MP the hedge not clipped that should he MP actually
machen.
do

Item 9, positive HQ and negative RQ:

- (17) Marcel und Daniela betreiben ein Hotel, in dem aktuell nicht viel los ist. Sie unterhalten sich über die aktuelle Zimmerbelegung, und ob die Rezeptionsdame Maria alles richtig zugeordnet hat. Daniela sieht, dass der Schlüssel zum Kellerzimmer nicht an seinem Haken hängt. Sie fragt:
Marcel and Daniela run a hotel, in which it is currently not busy. They talk about the current room assignments and about whether their receptionist has assigned all rooms correctly. Daniela sees that the key to the basement room does not hang on its hook. Daniela asks:
- Maria hat wohl das Kellerzimmer vermietet? Das sollte sie doch
 Maria has MP the basement.room rented.out that should she MP
 eigentlich lassen.
 actually let.be
 - Maria hat doch wohl nicht das Kellerzimmer vermietet? Das sollte sie
 Maria has MP MP not the basement.room rented.out that should she
 doch eigentlich lassen.
 MP actually let.be

Item 9, positive RQ and negative HQ:

- (18) Marcel und Daniela betreiben ein Hotel, in dem aktuell die Hölle los ist. Sie unterhalten sich über die aktuelle Zimmerbelegung, und ob die Rezeptionsdame Maria alles richtig zugeordnet hat. Daniela sieht, dass der Schlüssel zum Kellerzimmer an seinem Haken hängt. Sie fragt:
Marcel and Daniela run a hotel, in which it is currently very busy. They talk about the current room assignments and about whether their receptionist has assigned all rooms correctly. Daniela sees that the key to the basement room hangs on its hook. Daniela asks:
- Maria hat doch wohl das Kellerzimmer vermietet? Das sollte sie doch
 Maria has MP MP the basement.room rented.out that should she MP
 eigentlich machen.
 actually do
 - Maria hat wohl das Kellerzimmer nicht vermietet? Das sollte sie doch
 Maria has MP the basement.room not rented.out that should she MP
 eigentlich machen.
 actually do

Item 10, positive HQ and negative RQ:

- (19) Kerstin, Johann und Lisa haben einen Obstgarten und sind zur Zeit am Ernten. Kerstin und Johann unterhalten sich darüber, was Lisa beigetragen hat. Johann sieht, dass der für die Äpfel reservierte Korb nicht mehr im Schuppen steht. Er fragt:

Kerstin, Johann and Lisa own an orchard and are currently busy with the harvest. Kerstin and Johann talk about what Lisa has done. Johann sees that the basket which is used for the apples is no longer sitting in the shed. He asks:

- a. Lisa hat wohl die Äpfel geerntet? Das sollte sie doch eigentlich lassen.
Lisa has MP the apples harvested that should she MP actually let.be
- b. Lisa hat doch wohl nicht die Äpfel geerntet? Das sollte sie doch
Lisa has MP MP not the apples harvested that should she MP
eigentlich lassen.
actually let.be

Item 10, positive RQ and negative HQ:

- (20) Kerstin, Johann und Lisa haben einen Obstgarten und sind zur Zeit am Ernten. Kerstin und Johann unterhalten sich darüber, was Lisa beigetragen hat. Johann sieht, dass der für die Äpfel reservierte Korb leer im Schuppen steht. Er fragt:
Kerstin, Johann and Lisa own an orchard and are currently busy with the harvest. Kerstin and Johann talk about what Lisa has done. Johann sees that the basket which is used for the apples is sitting empty in the shed. He asks:
 - a. Lisa hat doch wohl die Äpfel geerntet? Das sollte sie doch eigentlich
Lisa has MP MP the apples harvested that should she MP actually
machen.
do
 - b. Lisa hat wohl die Äpfel nicht geerntet? Das sollte sie doch eigentlich
Lisa has MP the apples not harvested that should she MP actually
machen.
do

Item 11, positive HQ and negative RQ:

- (21) Michael und Ute betreiben einen Süßwarenladen und unterhalten sich nach Ladenschluss darüber, was ihre Angestellte Emma heute erledigt hat. Ute sieht, dass im Lager keine Lakritze mehr liegt. Sie fragt:
Michael and Ute run a candy store and are talking after closing time about what their employee Emma has done today. Ute sees that there are no licorice packets in the storage. She asks:
 - a. Emma hat wohl die Lakritze eingeräumt? Das sollte sie doch eigentlich
Emma has MP the licorice laid.in that should she MP actually
lassen.
let.be
 - b. Emma hat doch wohl nicht die Lakritze eingeräumt? Das sollte sie doch
Emma has MP MP not the licorice laid.in that should she MP
eigentlich lassen.
actually let.be

Item 11, positive RQ and negative HQ:

- (22) Michael und Ute betreiben einen Süßwarenladen und unterhalten sich nach Ladenschluss darüber, was ihre Angestellte Emma heute erledigt hat. Ute sieht, dass im Lager noch Lakritzpackungen liegen. Sie fragt:
Michael and Ute run a candy store and are talking after closing time about what their employee Emma has done today. Ute sees that there are licorice packets in the storage. She asks:
- Emma hat doch wohl die Lakritze eingeräumt? Das sollte sie doch
 Emma has MP MP the licorice laid.in that should she MP
 eigentlich machen.
 actually do
 - Emma hat wohl die Lakritze nicht eingeräumt? Das sollte sie doch
 Emma has MP the licorice not laid.in that should she MP
 eigentlich machen.
 actually do

Item 12, positive HQ and negative RQ:

- (23) Eva und Nils sind auf dem Weg, ihre gemeinsame Freundin Maja zu besuchen. Schon von weitem ist das Bellen von Majas Hund zu hören, der sich eigentlich meistens im Haus aufhält. Nils fragt:
Eva and Nils are on their way to visit their mutual friend Maja. They hear Maja's dog barking from far away, even though it usually stays indoor. Nils asks:
- Maja hat wohl den Hund rausgelassen? Das sollte sie doch eigentlich
 Maja has MP the dog let.out that should she MP actually
 lassen.
 let.be
 - Maja hat doch wohl nicht den Hund rausgelassen? Das sollte sie doch
 Maja has MP MP not the dog let.out that should she MP
 eigentlich lassen.
 actually let.be

Item 12, positive RQ and negative HQ:

- (24) Eva und Nils sind auf dem Weg, ihre gemeinsame Freundin Maja zu besuchen. Anders als sonst ist heute in der ganzen Straße kein Mucks von Majas Hund zu hören. Nils fragt:
Eva and Nils are on their way to visit their mutual friend Maja. Unlike usually, not a sound is heard from Maja's dog. Nils asks:
- Maja hat doch wohl den Hund rausgelassen? Das sollte sie doch eigentlich
 Maja has MP MP the dog let.out that should she MP actually
 machen.
 do

- b. Maja hat wohl den Hund nicht rausgelassen? Das sollte sie doch eigentlich
 Maja has MP the dog not let.out that should she MP actually
 machen.
 do

Item 13, positive HQ and negative RQ:

- (25) Alexander und Ingrid unterhalten sich über den Fischteich in ihrem Garten und darüber, ob ihre Tochter Nina heute mal nach den Jungfischen geschaut hat. Ingrid sieht, dass im Schrank eine Packung Fischfutter offen ist. Sie fragt:
Alexander and Ingrid talk about the fishes in their garden, and about whether their daughter Nina has seen after them today. Ingrid sees an opened packet of fish fodder in the cupboard. She asks:
- a. Nina hat wohl die Fische gefüttert? Das sollte sie doch eigentlich lassen.
 Nina has MP the fish fed that should she MP actually let.be
- b. Nina hat doch wohl nicht die Fische gefüttert? Das sollte sie doch
 Nina has MP MP not the fish fed that should she MP
 eigentlich lassen.
 actually let.be

Item 13, positive RQ and negative HQ:

- (26) Alexander und Ingrid unterhalten sich über den Fischteich in ihrem Garten und darüber, ob ihre Tochter Nina sich heute darum gekümmert hat. Ingrid sieht, dass die Packung Fischfutter im Schrank ungeöffnet ist. Sie fragt:
Alexander and Ingrid talk about the fishes in their garden, and about whether their daughter Nina has seen after them today. Ingrid sees an unopened packet of fish fodder in the cupboard. She asks:
- a. Nina hat doch wohl die Fische gefüttert? Das sollte sie doch eigentlich
 Nina has MP MP the fish fed that should she MP actually
 machen.
 do
- b. Nina hat wohl die Fische nicht gefüttert? Das sollte sie doch eigentlich
 Nina has MP the fish not fed that should she MP actually
 machen.
 do

Item 14, positive HQ and negative RQ:

- (27) Marie und Torsten sind auf dem Weg in ihr Büro, das sie sich mit ihrer Kollegin Anna teilen. Als sie hereinkommen, ist Anna nicht da und es ist recht warm im Büro. Torsten fragt:
Marie and Torsten are on the way to their office, which they share with their co-worker Anna. When they come in, Anna is not there and it is quite warm in the office. Torsten asks:

- a. Anna hat wohl die Heizung angestellt? Das sollte sie doch eigentlich
Anna has MP the heating turned.on that should she MP actually
lassen.
let.be
- b. Anna hat doch wohl nicht die Heizung angestellt? Das sollte sie doch
Anna has MP MP not the heating turned.on that should she MP
eigentlich lassen.
actually let.be

Item 14, positive RQ and negative HQ:

- (28) Marie und Torsten sind auf dem Weg in ihr Büro, das sie sich mit ihrer Kollegin Anna teilen. Als sie hereinkommen, ist Anna nicht da und es ist recht kühl im Büro. Torsten fragt:

Marie and Torsten are on the way to their office, which they share with their co-worker Anna. When they come in, Anna is not there and it is quite cold in the office. Torsten asks:

- a. Anna hat doch wohl die Heizung angestellt? Das sollte sie doch eigentlich
Anna has MP MP the heating turned.on that should she MP actually
machen.
do
- b. Anna hat wohl die Heizung nicht angestellt? Das sollte sie doch eigentlich
Anna has MP the heating not turned.on that should she MP actually
machen.
do

Item 15, positive HQ and negative RQ:

- (29) Stefan und Amanda unterhalten sich über ein Geschenk, das sie einer gemeinsamen Freundin machen wollen. Sie haben vor, vor dem Verpacken noch eine Karte dranzuheften, auf der sie und ihre Mitbewohnerin Viktoria unterschreiben. Als Stefan und Amanda nach Hause kommen, sehen sie, dass eine Rolle Geschenkpapier und eine Schere auf dem Tisch liegen. Amanda fragt:

Stefan and Amanda talk about a present that they want to give to a mutual friend. They intend to include a card which they and their flatmate Viktoria are going to sign before they wrap the present. When Stefan and Amanda come home, they see that a roll of gift wrap and a pair of scissors lie on the table. Amanda asks:

- a. Viktoria hat wohl das Geschenk verpackt? Das sollte sie doch eigentlich
Viktoria has MP the present wrapped that should she MP actually
lassen.
let.be
- b. Viktoria hat doch wohl nicht das Geschenk verpackt? Das sollte sie doch
Viktoria has MP MP not the present wrapped that should she MP

eigentlich lassen.
actually let.be

Item 15, positive RQ and negative HQ:

- (30) Stefan und Amanda unterhalten sich über ein Geschenk, das sie einer gemeinsamen Freundin machen wollen. Sie hatten ihre Mitbewohnerin Viktoria gebeten, es schon mal zu verpacken. Als Stefan und Amanda nach Hause kommen, sehen sie, dass die Rolle Geschenkpapier ungeöffnet auf dem Tisch liegt. Amanda fragt:
Stefan and Amanda talk about a present that they want to give to a mutual friend. They asked their flatmate Viktoria to wrap the present. When Stefan and Amanda come home, they see that a roll of gift wrap lies unopened on the table. Amanda asks:
- a. Viktoria hat doch wohl das Geschenk verpackt? Das sollte sie doch
Viktoria has MP MP the present wrapped that should she MP
eigentlich machen.
actually do
 - b. Viktoria hat wohl das Geschenk nicht verpackt? Das sollte sie doch
Viktoria has MP the present not wrapped that should she MP
eigentlich machen.
actually do

Item 16, positive HQ and negative RQ:

- (31) Annika, Robert und Christina bringen ihren gemeinsamen Garten auf Vordermann. Anna und Robert unterhalten sich darüber, was heute alles gemacht wurde. Robert sieht eine leere Packung Möhrensaatgut im Schuppen liegen. Er fragt:
Annika, Robert och Christina are working in their garden. Anna and Robert are talking about what has been accomplished today. Robert sees an empty packet of carrot seeds. He asks:
- a. Christina hat wohl die Möhren gesät? Das sollte sie doch eigentlich lassen.
Christina has MP the carrots sowed that should she MP actually let.be
 - b. Christina hat doch wohl nicht die Möhren gesät? Das sollte sie doch
Christina has MP MP not the carrots sowed that should she MP
eigentlich lassen.
actually let.be

Item 16, positive RQ and negative HQ:

- (32) Annika, Robert und Christina bringen ihren gemeinsamen Garten auf Vordermann. Anna und Robert unterhalten sich darüber, was heute alles gemacht wurde. Robert sieht eine ungeöffnete Packung Möhrensaatgut im Schuppen liegen. Er fragt:
Annika, Robert och Christina are working in their garden. Anna and Robert are talking about what has been accomplished today. Robert sees an unopened packet of carrot seeds. He asks:

- a. Christina hat doch wohl die Möhren gesät? Das sollte sie doch eigentlich
Christina has MP MP the carrots sowed that should she MP actually
machen.
do
- b. Christina hat wohl die Möhren nicht gesät? Das sollte sie doch eigentlich
Christina has MP the carrots not sowed that should she MP actually
machen.
do

Item 17, positive HQ and negative RQ:

- (33) Patrick, Hanna und Mats machen Frühjahrsputz. Patrick und Hanna unterhalten sich darüber, welche von seinen Aufgaben Mats erledigt hat. Hanna sieht Putzmittel vor der Badtür stehen. Sie fragt:
Patrick, Hanna and Mats are busy with the spring cleaning. Patrick and Hanna talk about which chores Mats has done. Hanna sees that the cleaning agent for the bathroom is sitting in front of the bathroom door. She asks:
- a. Mats hat wohl das Bad geputzt? Das sollte er doch eigentlich lassen.
Mats has MP the bathroom cleaned that should he MP actually let.be
 - b. Mats hat doch wohl nicht das Bad geputzt? Das sollte er doch
Mats has MP MP not the bathroom cleaned that should he MP
eigentlich lassen.
actually let.be

Item 17, positive RQ and negative HQ:

- (34) Patrick, Hanna und Mats machen Frühjahrsputz. Patrick und Hanna unterhalten sich darüber, welche von seinen Aufgaben Mats erledigt hat. Hanna sieht die Badputzmittel in der Kammer stehen. Sie fragt:
Patrick, Hanna and Mats are busy with the spring cleaning. Patrick and Hanna talk about which chores Mats has done. Hanna sees that the cleaning agent for the bathroom is sitting in the pantry. She asks:
- a. Mats hat doch wohl das Bad geputzt? Das sollte er doch eigentlich
Mats has MP MP the bathroom cleaned that should he MP actually
machen.
do
 - b. Mats hat wohl das Bad nicht geputzt? Das sollte er doch eigentlich
Mats has MP the bathroom not cleaned that should he MP actually
machen.
do

Item 18, positive HQ and negative RQ:

- (35) Andrea und Oskar arbeiten in einer Gärtnerei und unterhalten sich über den Lehrling

Paul, und was er heute so geschafft hat. Oskar sieht, dass die Erde um die Petunien herum feucht ist. Er fragt:

Andrea and Oskar work in a flower nursery, and are talking about their trainee Paul and what he has done today. Oskar sees that the soil around the petunias is wet. He asks:

- a. Paul hat wohl die Petunien gegossen? Das sollte er doch eigentlich lassen.
Paul has MP the petunias watered that should he MP actually let.be
- b. Paul hat doch wohl nicht die Petunien gegossen? Das sollte er doch
Paul has MP MP not the petunias watered that should he MP
eigentlich lassen.
actually let.be

Item 18, positive RQ and negative HQ:

- (36) Andrea und Oskar arbeiten in einer Gärtnerei und unterhalten sich über den Lehrling Paul, und was er heute so geschafft hat. Oskar sieht, dass die Erde um die Petunien herum trocken ist. Er fragt:

Andrea and Oskar work in a flower nursery, and are talking about their trainee Paul and what he has done today. Oskar sees that the soil around the petunias is dry. He asks:

- a. Paul hat doch wohl die Petunien gegossen? Das sollte er doch eigentlich
Paul has MP MP the petunias watered that should he MP actually
machen.
do
- b. Paul hat wohl die Petunien nicht gegossen? Das sollte er doch eigentlich
Paul has MP the petunias not watered that should he MP actually
machen.
do

Item 19, positive HQ and negative RQ:

- (37) Felix, Ulla und ihr Mitbewohner Olaf wollen zum Abendessen gemeinsam eine Suppe kochen und einen großen Fisch braten, den sie am Vormittag gefangen haben. Felix und Ulla sind gerade nach Hause gekommen. In der Wohnung riecht es nach verbranntem Fett. Ulla fragt:

Felix, Ulla and their flatmate Olaf are going to prepare a soup for dinner and fry a big fish which they caught the same day. Felix and Ulla have just come home. The flat smells of burnt fat. Ulla asks:

- a. Olaf hat wohl den Fisch gebraten? Das sollte er doch eigentlich lassen.
Olaf has MP the fish fried that should he MP actually let.be
- b. Olaf hat doch wohl nicht den Fisch gebraten? Das sollte er doch eigentlich
Olaf has MP MP not the fish fried that should he MP actually
lassen.
let.be

Item 19, positive RQ and negative HQ:

- (38) Felix, Ulla und ihr Mitbewohner Olaf wollen zum Abendessen gebratenen Fisch essen. Felix und Ulla sind gerade nach Hause gekommen. In der Wohnung ist es dunkel. Aus Olafs Zimmer tönen Computergeräusche. Ulla fragt:
Felix, Ulla and their flatmate Olaf want to eat fried fish for dinner. Felix and Ulla have just come home. One can hear computer sounds coming from Olaf's room. Ulla asks:
- Olaf hat doch wohl den Fisch gebraten? Das sollte er doch eigentlich machen.
 Olaf has MP MP the fish fried that should he MP actually do
 - Olaf hat wohl den Fisch nicht gebraten? Das sollte er doch eigentlich machen.
 Olaf has MP the fish not fried that should he MP actually do

Item 20, positive HQ and negative RQ:

- (39) Lena und Ralf arbeiten in einer Anwaltskanzlei und unterhalten sich über die Akten eines gerade verhandelten Falls. Ralf sieht, dass die Akten nicht mehr auf dem Schreibtisch seines Kollegen Henrik liegen. Er fragt:
Lena and Ralf work at a law firm, and are talking about the files regarding a newly-finished case. Ralf sees that the files no longer lie on his colleague Henrik's desk. Ralf asks:
- Henrik hat wohl die Akten abgeheftet? Das sollte er doch eigentlich lassen.
 Henrik has MP the documents archived that should he MP actually let.be
 - Henrik hat doch wohl nicht die Akten abgeheftet? Das sollte er doch eigentlich lassen.
 Henrik has MP MP not the documents archived that should he MP actually let.be

Item 20, positive RQ and negative HQ:

- (40) Lena und Ralf arbeiten in einer Anwaltskanzlei und unterhalten sich über die Akten eines gerade verhandelten Falls. Ralf sieht, dass einige der Akten noch auf dem Schreibtisch seines Kollegen Henrik liegen. Er fragt:
Lena and Ralf work at a law firm, and are talking about the files regarding a newly-finished case. Ralf sees that some of the documents still lie on his colleague Henrik's desk. Ralf asks:
- Henrik hat doch wohl die Akten abgeheftet? Das sollte er doch lassen.
 Henrik has MP MP the documents archived that should he MP

eigentlich machen.

actually do

- b. Henrik hat wohl die Akten nicht abgeheftet? Das sollte er doch
 Henrik has MP the documents not archived that should he MP
 eigentlich machen.
 actually do

Item 21, positive HQ and negative RQ:

- (41) Frank, Caroline und Julia betreiben eine kleine Buchhandlung. Frank und Caroline unterhalten sich über eine große Versandbestellung, die ein Kunde aufgegeben hat. Caroline sieht, dass das noch nicht fertig gepackte Bücherpaket nicht mehr an dem Ort steht, wo sie es zuletzt gesehen hat. Sie fragt:

Frank, Caroline and Julia run a small book store. Frank and Caroline talk about a big order that a customer has placed. Caroline sees that the book package, which has not been fully finished yet, is no longer in the spot where she last saw it. She asks:

- a. Julia hat wohl das Bücherpaket abgeschickt? Das sollte sie doch
 Julia has MP the book.package sent that should she MP
 eigentlich lassen.
 actually let.be
- b. Julia hat doch wohl nicht das Bücherpaket abgeschickt? Das sollte sie
 Julia has MP MP not the book.package sent that should she
 doch eigentlich lassen.
 MP actually let.be

Item 21, positive RQ and negative HQ:

- (42) Frank, Caroline und Julia betreiben eine kleine Buchhandlung. Frank und Caroline unterhalten sich über eine große Versandbestellung, die ein Kunde aufgegeben hat. Caroline sieht, dass noch ein paar Bücher, die Teil der Bestellung sein sollten, herumliegen. Sie fragt:

Frank, Caroline and Julia run a small book store. Frank and Caroline talk about a big order that a customer has placed. Caroline sees some books that are supposed to be a part of the order. She asks:

- a. Julia hat doch wohl das Bücherpaket abgeschickt? Das sollte sie doch
 Julia has MP MP the book.package sent that should she MP
 eigentlich machen.
 actually do
- b. Julia hat wohl das Bücherpaket nicht abgeschickt? Das sollte sie doch
 Julia has MP the book.package not sent that should she MP
 eigentlich machen.
 actually do

Item 22, positive HQ and negative RQ:

- (43) Julia, Emil und Anja betreiben einen Laden für Modellbauer. Julia und Emil unterhalten sich über ein antikes Modellschiff, das ihnen ein Kunde geschenkt hat. Dem Schiff fehlt ein Mast. Emil sieht, dass die Sammelkiste mit alten Modellmasten auf der Werkbank liegt. Er fragt:
Julia, Emil and Anja run a shop for model builders. Julia and Emil talk about an old model ship that they received from a costumer. The ship is missing a mast. Emil sees that the box containing old model masts stands on the workbench. He asks:
- Anja hat wohl das Schiff repariert? Das sollte sie doch eigentlich lassen.
 Anja has MP the ship repaired that should she MP actually let.be
 - Anja hat doch wohl nicht das Schiff repariert? Das sollte sie doch
 Anja has MP MP not the ship repaired that should she MP
 eigentlich lassen.
 actually let.be

Item 22, positive RQ and negative HQ:

- (44) Julia, Emil und Anja betreiben einen Laden für Modellbauer. Julia und Emil unterhalten sich über ein antikes Modellschiff, das ihnen ein Kunde zur Reparatur dagelassen hat. Dem Schiff fehlt ein Mast. Emil sieht, dass die Werkbank, die zum Reparieren von Schiffen verwendet wird, unbenutzt aussieht. Er fragt:
Julia, Emil and Anja run a shop for model builders. Julia and Emil talk about an old model ship that they received from a costumer. The ship is missing a mast. Emil sees that the workbench that is used for the repair of ships looks unused. He asks:
- Anja hat doch wohl das Schiff repariert? Das sollte sie doch eigentlich
 Anja has MP MP the ship repaired that should she MP actually
 machen.
 do
 - Anja hat wohl das Schiff nicht repariert? Das sollte sie doch eigentlich
 Anja has MP the ship not repaired that should she MP actually
 machen.
 do

Item 23, positive HQ and negative RQ:

- (45) David und Elsa, zwei Landschaftsgärtner, unterhalten sich über die Baumfällarbeiten im Park, und darüber, was ihre Kollegin Martina heute beigetragen hat. Elsa sieht auf dem Stapel, auf dem gefällttes Holz gesammelt wird, frische Eichenäste liegen. Sie fragt:
David and Elsa, two landscape gardeners, talk about the tree cuttings in the park, and what their colleague Martina has done today. Elsa looks at the pile of felled trees and sees fresh oak branches on it. She asks:

- a. Martina hat wohl die Eiche gefällt? Das sollte sie doch eigentlich lassen.
Martina has MP the oak felled that should she MP actually let.be
- b. Martina hat doch wohl nicht die Eiche gefällt? Das sollte sie doch
Martina has MP MP not the oak felled that should she MP
eigentlich lassen.
actually let.be

Item 23, positive RQ and negative HQ:

- (46) David und Elsa, zwei Landschaftsgärtner, unterhalten sich über die Baumfällarbeiten im Park, und darüber, was ihre Kollegin Martina heute beigetragen hat. Die alte Eiche stand ganz oben auf der Liste der zu fällenden Bäume. Elsa sieht auf dem Stapel, auf dem gefällttes Holz gesammelt wird, keine frischen Eichenäste liegen. Sie fragt:
David and Elsa, two landscape gardeners, talk about the tree cuttings in the park, and what their colleague Martina has done today. The old oak stood high on the list of trees that should be felled. Elsa looks at the pile of felled trees and sees that there are no fresh oak branches on it. She asks:
- a. Martina hat doch wohl die Eiche gefällt? Das sollte sie doch eigentlich
Martina has MP MP the oak felled that should she MP actually
machen.
do
 - b. Martina hat wohl die Eiche nicht gefällt? Das sollte sie doch eigentlich
Martina has MP the oak not felled that should she MP actually
machen.
do

Item 24, positive HQ and negative RQ:

- (47) Helena und Matthias sind auf dem Weg nach Hause und unterhalten sich über ihren Weihnachtsbaum, den sie heute abend gemeinsam mit ihrer Tochter Linnéa schmücken wollen. Als sie zuhause ankommen, sehen sie, dass vor der Haustür die Weihnachtsbaumschmuckkiste steht. Die Kiste ist leer. Matthias fragt:
Helena and Matthias are on their way home and talking about the Christmas tree, which they intend to decorate this evening together with their daughter Linnéa. When they arrive home, they see that the box with Christmas tree decorations sits in front of the door. The box is empty. Matthias asks:
- a. Linnéa hat wohl den Weihnachtsbaum geschmückt? Das sollte sie doch
Linnéa has MP the christmas.tree decorated that should she MP
eigentlich lassen.
actually let.be
 - b. Linnéa hat doch wohl nicht den Weihnachtsbaum geschmückt? Das sollte
Linnéa has MP MP not the christmas.tree decorated that should

sie doch eigentlich lassen.
she MP actually let.be

Item 24, positive RQ and negative HQ:

- (48) Helena und Matthias sind auf dem Weg nach Hause und unterhalten sich über ihren Weihnachtsbaum, den sie ihre Tochter Linnéa zu schmücken gebeten hatten. Als sie zuhause ankommen, sehen sie, dass vor der Haustür die Weihnachtsbaumschmuckkiste steht. Die Kiste ist ungeöffnet. Matthias fragt:
Helena and Matthias are on their way home and talking about the Christmas tree, which they asked their daughter Linnéa to decorate. When they arrive home, they see that the box with Christmas tree decorations sits in front of the door. The box is closed. Matthias asks:
- a. Linnéa hat doch wohl den Weihnachtsbaum geschmückt? Das sollte sie
Linnéa has MP MP the christmas.tree decorated that should she
doch eigentlich machen.
MP actually do
 - b. Linnéa hat wohl den Weihnachtsbaum nicht geschmückt? Das sollte sie
Linnéa has MP the christmas.tree not decorated that should she
doch eigentlich machen.
MP actually do

List of Figures

3.1	Experiment I: Violin plot of scores	73
3.2	Experiment II: Experimental setup	78
3.3	Experiment II: Normalized f0 contours across subjects	79
3.4	Experiment IIIa: Violin plots of the scores in each condition	86
3.5	Experiment IIIb: Violin plot of scores	94
3.6	Experiment IIIb: Influence of deontic plausibility on ratings	98
3.7	Experiment IIIb: Ratings in each condition for the item illustrated in (23) . .	100
3.8	Experiment IIIb: Influence of disambiguation in the left context on ratings of items with disambiguation in all four conditions vs. in no condition	101

List of Tables

2.1	Values for evidential and epistemic biases	16
2.2	Correspondence of bias terminology in Gärtner and Gyuris (2016) and Sudo (2013)	19
2.3	Constraints from Gärtner and Gyuris (2016) with respective exceptions . . .	24
2.4	Epistemic biases of DQs in a list context with world knowledge influence . .	31
2.5	Epistemic biases of DQs in a list context without world knowledge influence	31
2.6	Epistemic biases of DQs in a non-list context with world knowledge influence	31
2.7	Epistemic biases of DQs in a non-list context without world knowledge influence	31
2.8	Bias profiles of rejecting questions	42
3.1	Experiment I: Mean ratings across participants.	72
3.2	Experiment I: Percentages of the distribution of ratings across conditions. Columns may not sum to 100% due to rounding.	72
3.3	Experiment I: Model parameters for the best model.	73
3.4	Experiment II: Model parameters for factor speech act. Effect sizes are shown for rejecting questions.	80
3.5	Experiment II: Model parameters for factor focus. Effect sizes are shown for verb focus.	81
3.6	Experiment IIIa: Mean ratings across participants	86
3.7	Experiment IIIa: Percentages of the distribution of ratings across conditions. Columns may not sum to 100% due to rounding.	87
3.8	Experiment IIIa: Parameters of the starting model, including an interaction between the factors. Effect sizes are given for negative questions and for rejecting questions.	87
3.9	Experiment IIIa: Parameters of the best model. Effect sizes are given for negative questions and for rejecting questions.	87
3.10	Meaning components of Swedish and German modal particles. Bracketed components are truly optional.	90
3.11	Meaning components of German and stressable Swedish modal particles. . .	90

List of Tables

3.12	Experiment IIIb: Mean ratings across participants	94
3.13	Experiment IIIb: Parameters of the starting model, including an interaction between the factors	95
3.14	Experiment IIIb: Parameters of the best model	95
3.15	Experiment IIIb: Parameters of the post hoc model	102

Literature

- Aijmer, K. (2015). The Swedish modal particle *väl* in a contrastive perspective. *Nordic Journal of English Studies* 14(1), 174–200.
- Alm, M. (2012). Why not swedish modal particles? In J. Brandtler, D. Håkansson, S. Huber, and E. Klingvall (Eds.), *Discourse & Grammar : A Festschrift in Honor of Valéria Molnár*, pp. 29–52. Lund: Centre for Languages and Literature, Lund University.
- Ambrazaitis, G., T. C. Buanzur, and O. Niebuhr (2015). Focal f0 peak shape and sentence mode in swedish. In *18th International Congress of Phonetic Sciences (ICPhS)*, pp. 1–5.
- Barbiers, S. (2002). Microvariation in negation in varieties of Dutch. In S. Barbiers, L. Cornips, and S. van der Kleij (Eds.), *Syntactic Microvariation*, pp. 13–40. Amsterdam: Meertens Institut.
- Bates, D., M. Mächler, B. Bolker, and S. Walker (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software* 67(1), 1–48.
- Biezma, M. (2009). Alternative vs polar questions: the cornering effect. In *Proceedings of SALT 19*, pp. 37–54.
- Bolinger, D. (1978). Yes-no questions are not alternative questions. In H. Hiz (Ed.), *Questions*, pp. 87–105. D. Reidel.
- Brandtler, J. (2006). On Aristotle and baldness – topic, reference, presupposition of existence, and negation. *Working Papers in Scandinavian Syntax* 77, 177–204.
- Brandtler, J. and D. Håkansson (2012). Negation, contrast, and the Swedish prefield. In J. Brandtler, D. Håkansson, S. Huber, and E. Klingvall (Eds.), *Discourse and Grammar. A Festschrift in Honor of Valéria Molnár*, pp. 75–91. Lund: Centre for Languages and Literature, Lund University.
- Brandtler, J. and D. Håkansson (2014). Not on the edge. *The Journal of Comparative Germanic Linguistics* 17(2), 97–128.
- Bruce, G. (1983). Accentuation and timing in swedish. *Folia Linguistica* 17(1-4), 221–238.

- Büring, D. and C. Gunlogson (2000). Aren't Positive and Negative Polar Questions the Same? UCSC/UCLA.
- Chomsky, N. (1995). *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Christensen, R. H. B. (2015). ordinal—regression models for ordinal data. R package version 2015.6-28. <http://www.cran.r-project.org/package=ordinal/>.
- Domaneschi, F., M. Romero, and B. Brarun (2017). Bias in polar questions: Evidence from english and german production experiments. *Glossa* 2(1), 1–28.
- Farkas, D. and F. Roelofsen (2012). Polar initiatives and polarity particles in an inquisitive discourse model. In *colloquia at Yale and Nijmegen University*.
- Gårding, E. (1979). Sentence intonation in Swedish. *Phonetica* 36(3), 207–215.
- Gårding, E. (2009). Intonation in Swedish. *Working Papers in Linguistics* 35, 63–88.
- Gast, V. (2008). Modal particles and context updating – the functions of german ja, doch, wohl and etwa. *Modalverben und Grammatikalisierung*.
- Giannakidou, A. (2011). Negative and positive polarity items: Variation, licensing, and compositionality. *Semantics: An international handbook of natural language meaning*. Berlin: De Gruyter Mouton 10.
- Gieselmann, S. and I. Caponigro (2009). Two sides of the same pragmatic move: The german discourse particles etwa and nicht. *Proceedings of NELS 40*.
- Gärtner, H.-M. and B. Gyuris (2016). On delimiting the space of bias profiles for polar interrogatives. Hungarian Academy of Sciences & Linguistics.
- Gunlogson, C. (2003). *True to Form: Rising and Falling Declaratives as Questions in English*. New York: Routledge.
- Gunlogson, C. (2008). A question of commitment. *Belgian Journal of Linguistics* 22(1), 101–136.
- Gyuris, B. (2016). New perspectives on bias in polar questions. a study of Hungarian -e. *International Review of Pragmatics*, 1–50.
- Haeseryn, W. (Ed.) (1997). *Algemene nederlandse spraakkunst*. Groningen: Martinus Nijhoff.
- Hamblin, C. L. (1958). Questions. *The Australasian Journal of Philosophy* 36, 159–168.

- Hoeksema, J. (2012). On the natural history of negative polarity items. *Linguistic Analysis* 38(1), 3–33.
- House, D. (2003). Hesitation and interrogative Swedish intonation. *Phonum* 9, 185–188.
- Karttunen, L. (1977). Syntax and semantics of questions. *Linguistics and philosophy* 1(1), 3–44.
- Krifka, M. (2012). Negated polarity questions as denegations of assertions. *ms.*, Humboldt University/ZAS-Berlin.
- Lindström, J. (2007). Initial clausal negation—a Nordic areal feature. In A. Ammann (Ed.), *Linguistics Festival*, pp. 31–58. Bochum: Brockmeyer.
- Molnár, V. (2003). "c". In L.-O. Delsing, C. Falk, G. Josefsson, and H. Á. Sigurðsson (Eds.), *Grammar in Focus. Festschrift for Christer Platzack.*, Volume 2, pp. 235–248. Lund: Department of Scandinavian Languages, Lund University.
- Northrup, O. (2014). *Grounds for Commitment*. Ph. D. thesis, University of California Santa Cruz.
- Østbø Munch, C. (2013). *North Germanic Negation. A Microcomparative Perspective*. Ph. D. thesis, University of Tromsø.
- Petersson, D. (2008). Inte, nog och visst i mittfält och fundament. *Nordlund* 29.
- R Core Team (2016). *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing.
- Reese, B. (2007). *Bias in Questions*. Ph. D. thesis, University of Texas at Austin.
- Repp, S. (2009). *Negation in Gapping*. Oxford: Oxford University Press.
- Repp, S. (2013). Common ground management: Modal particles, illocutionary negation and verum. In D. Gutzmann and H.-M. Gärtner (Eds.), *Beyond expressives—Explorations in Use-conditional meaning*, pp. 231–274. Leiden: Brill.
- Roelofsen, F., N. Venhuizen, and G. W. Sassoon (2012). Positive and negative polar questions in discourse. In *Proceedings of Sinn und Bedeutung*, Volume 17, pp. 455–472.
- Romero, M. and C.-h. Han (2004). On negative yes/no questions. *Linguistics and Philosophy* 27(5), 609–658.

- Seeliger, H. (2012). Satzinitiale Negation in den skandinavischen Sprachen. Master's thesis, Humboldt-Universität zu Berlin.
- Seeliger, H. (2015). "Surely that's not a negative declarative question?" Polar discourses in Swedish, German and English. In E. Csipak and H. Zeijlstra (Eds.), *Proceedings of Sinn und Bedeutung*, Göttingen, Germany, pp. 571–589.
- Seeliger, H. and S. Repp (2017). On the intonation of Swedish rejections and rejecting questions. In *Proceedings of Nordic Prosody XII*.
- Seeliger, H. and S. Repp (2018). Biased declarative questions in Swedish and German: The syntax of negation meets modal particles (*väl* and *doch wohl*). In *Proceedings of Workshop "The grammatical realization of polarity"*.
- Sudo, Y. (2013). Biased polar questions in English and Japanese. In D. Gutzmann and H.-M. Gärtner (Eds.), *Beyond expressives—Explorations in Use-conditional meaning*, pp. 275–296. Leiden: Brill.
- Teleman, U., S. Hellberg, and E. Andersson (1999). *Svenska Akademiens grammatik*. Stockholm: Norstedts Ordbok.
- Thurmair, M. (1989). *Modalpartikeln und ihre Kombinationen*. Tübingen: Max Niemeyer Verlag.
- Trinh, T. (2014). How to ask the obvious - a presuppositional account of evidential bias in English yes/no questions. *MIT Working Papers in Linguistics* 71, 227–249.
- Truckenbrodt, H. (2004). Zur Strukturbedeutung von Interrogativsätzen. *Linguistische Berichte* 199, 313–350.
- van Rooy, R. and M. Šafářová (2003). On polar questions. In R. B. Young and Z. Yuping (Eds.), *Semantics and Linguistic Theory XIII*, pp. 292–309. Cornell University.
- von Essen, O. (1966). *Allgemeine und angewandte Phonetik*. Berlin: Akademie-Verlag.
- Xu, Y. (2013). ProsodyPro – a tool for large-scale systematic prosody analysis. In *Proceedings of Tools and Resources for the Analysis of Speech Prosody (TRASP 2013)*, pp. 7–10.
- Zeijlstra, H. (2010). Not in the first place. *Lingbuzz*.
- Zimmermann, M. (2004). Zum wohl: Diskurspartikeln als satztypmodifikatoren. *Linguistische Berichte*, 253–286.

Zimmermann, M. (2008). Discourse particles in the left periphery. In P. Cook, W. Frey, C. Maienborn, and B. Shaer (Eds.), *Dislocated Elements in Discourse*, pp. 200–231. Routledge.